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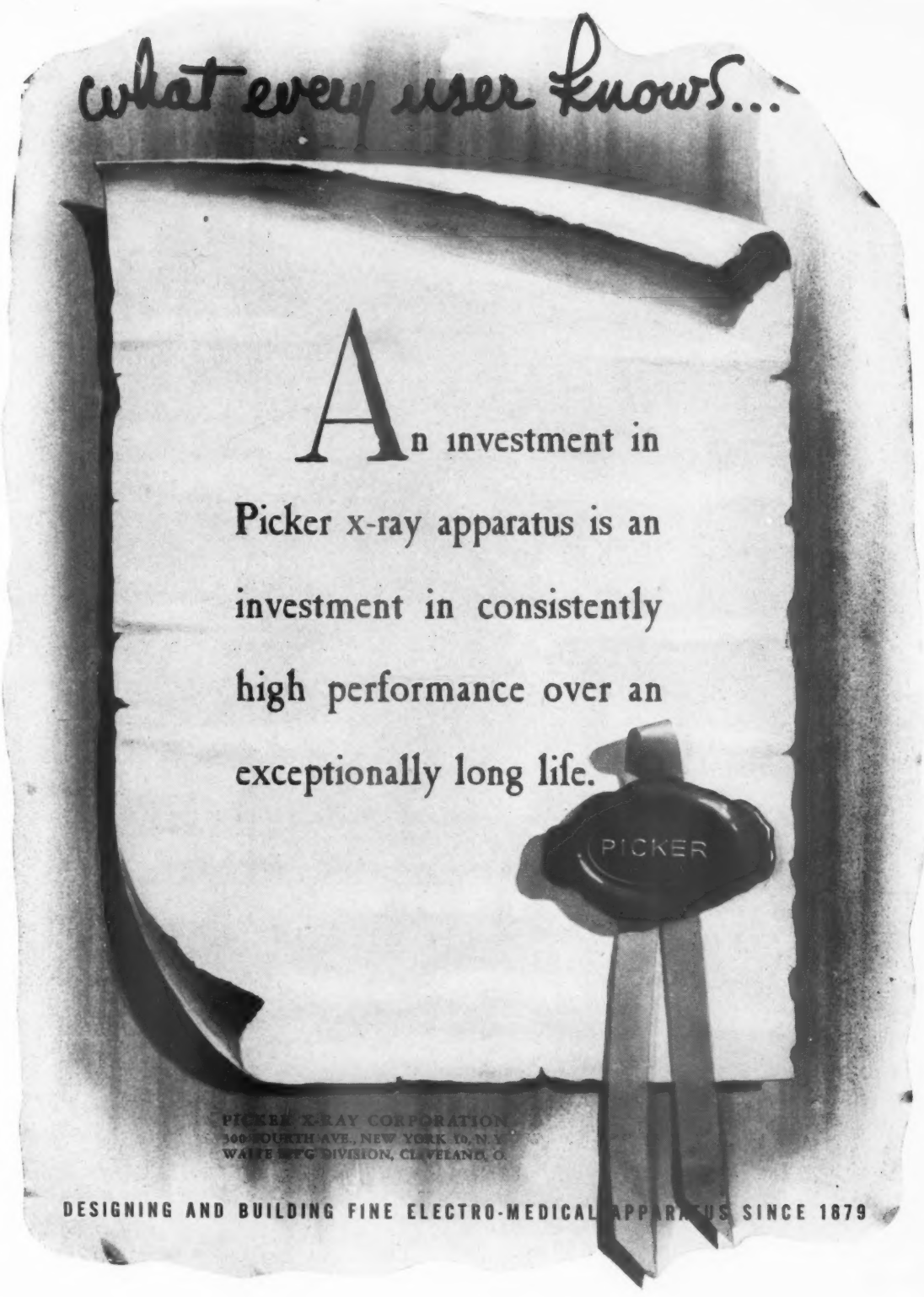
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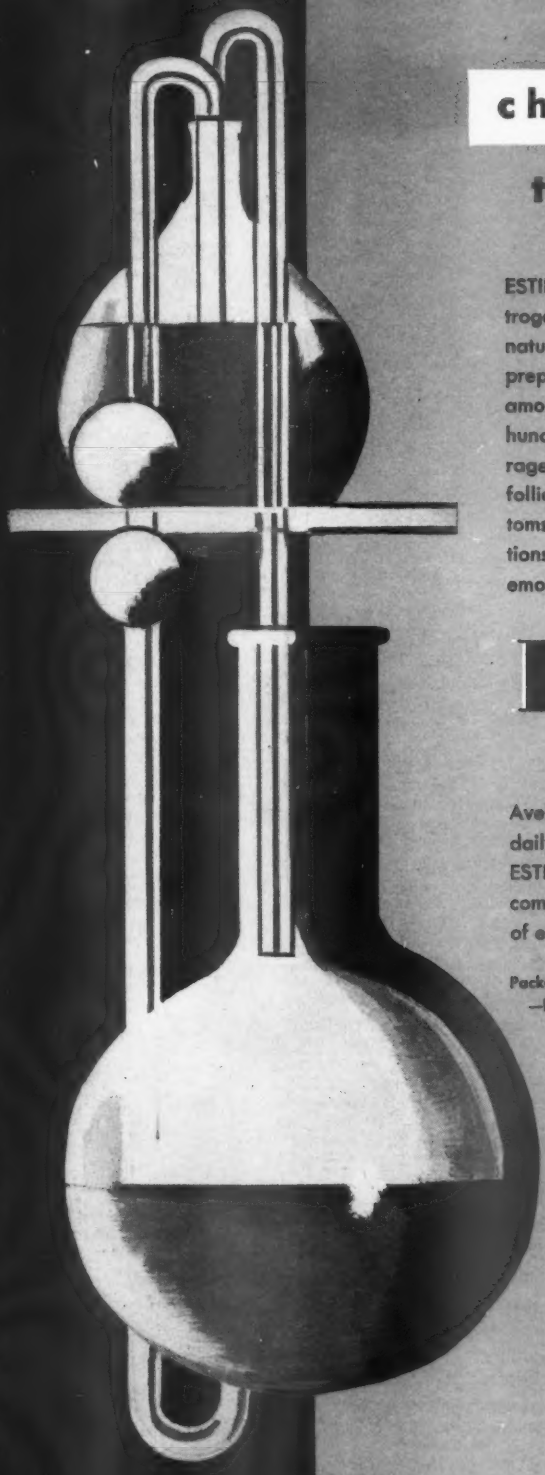

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1) Gaynor, M. F. and Dennett, R. H.: J. Ped., *4*:507-13 (April) 1934.

2) Hoobler, B. R.: J. A. M. A., *96*:675-77 (Feb. 28) 1931.

3) Poole, M. W., Hamil, B. M., Cooley, T. B., Macy, I. G.: Am. J. Dis. Child., *54*:726-749 (Oct.) 1937.

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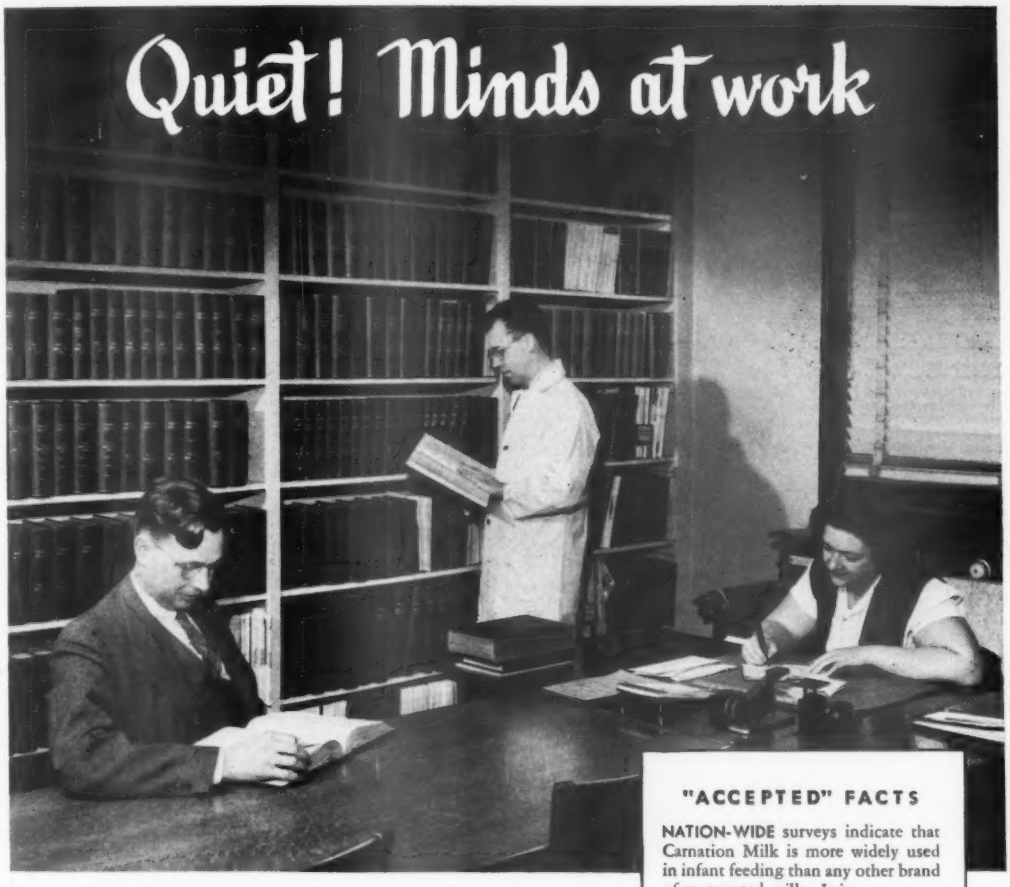

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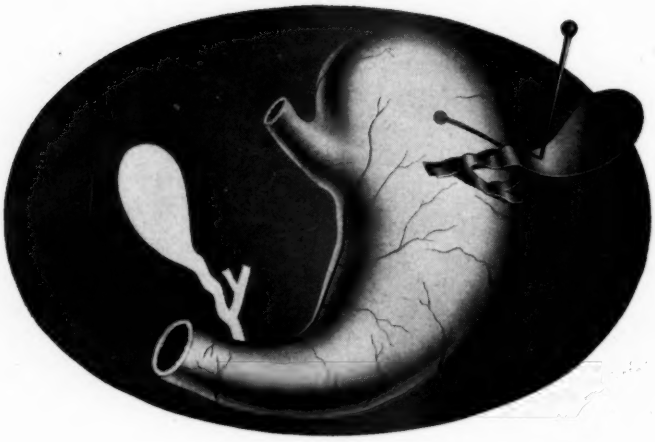
Bile in the Stomach?



This illustration has purposely been made to show the common duct opening into the stomach. Had nature intended the bile to be excreted in the stomach, she would have placed the opening there herself. Instead, nature releases bile in the small intestine, in which it carries out its function most efficiently.

Pulvules 'Bilron' (Iron Bile Salts, Lilly), like nature, release bile acids in the intestine. Iron bile salts are made in order to render the natural, conjugated bile acids insoluble in acid media. Hence, 'Bilron' passes through the normal stomach without causing gastric distress. In the intestine, it readily dissolves at the optimum point for emulsification and absorption of fats.

'Bilron'

ELI LILLY AND COMPANY
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EDITORIAL

A Temple of Learning

IN THE REALM of education, it sometimes seems that Rudyard Kipling's familiar saying might be paraphrased to read: "The male of the species, more conservative than the female." The educational institutions of the thirteen original American Colonies followed the British pattern. They were founded by men for the education of men. As the country grew great and spread West, the pattern established on the Atlantic Seaboard was still followed.

Probably this mattered little to pioneer and post-pioneer women. In their day, making and maintaining a home and rearing a family occupied all the time, mind, and energy of mothers, grandmothers, daughters, and maiden aunts. The advent of the machine age changed this situation. When spinning, weaving, and sewing could be done as well and more cheaply by machine as by hand, the women of America found themselves with time, energy, and money to spare. They too "went out for culture." They sought to enter colleges and universities but the doors were virtually closed. Thrown back on their own resources, they established, with the help of far-sighted and progressive men, their own institutions of learning—Mary Lyons, Vassar, Smith, and Wellesley, together with half a dozen medical colleges.

Only one of these medical colleges, the Woman's Medical College of Pennsylvania, exists today. It is interesting to speculate why this College, founded in Philadelphia in 1850, was the one destined to survive and to fill an important place in American medical education for the past 97 years. Was it because it was the first to be established and thus developed stronger roots? Was it due to the indomitable persistence of its Quaker founders and their Scotch-Irish collaborators? Was it because of the generous support of the Commonwealth of Pennsylvania? Or was it because of that intangible something that in medical parlance we call "the will to live". All these factors and others as well played their respective roles.

In the 97 years of its existence, some 2,072 women have received the degree of Doctor of Medicine from the Woman's Medical College of Pennsylvania. Of these 1,156 are living today. This means that approximately one out of every six women physicians now practicing in the United States is a graduate of this institution. The majority of the graduates are practicing physicians in their own communities, most of them in the United States. More than 150 graduates have gone into the foreign mission field. Hospitals and medical schools in various parts of the world have been established wholly or largely through the efforts of its graduates. The College is justly proud of the record of its alumnae.

Today the Woman's Medical College and its

Hospital head the list of opportunities for women in medicine. Over three hundred young women have applied for admission to this year's entering class. Only fifty can be admitted. Various tuition scholarships are offered. Six interneships, seven approved residencies, and three fellowships are available. More than sixty per cent of the teaching staff are women. The heads of twelve departments are women.

Few persons could be found today who would not agree that women physicians have amply demonstrated that they possess the requisite qualifications for their profession. It is also generally recognized that in certain fields of medicine they are especially qualified. With their special understanding of the problems peculiar to women, they are particularly fitted to make unique and sound contributions to the medicine of the future in obstetrics, gynecology, and pediatrics, and in preventive and industrial medicine. It may well be that these contributions can best be made by women working in institutions that they themselves control. In this connection it is worthy of note that one of the most important contributions to modern medicine, the control of cancer by periodic examination, was made by women physicians working in women's hospitals.

When a mountain climber reaches the summit after a strenuous climb, he may sink down exhausted and remain satisfied with his accomplishment. Another may look ahead to the next range of hills and resolve to climb them. If we belong to the latter group, the women physicians of this country stand on the threshold of a great future.

Some years ago, an eminent Catholic scholar, Dr. James J. Walsh, in a Commencement address at the Woman's Medical College of Pennsylvania, startled a complacent audience by saying: "Opportunities can be lost as well as won." He reminded his listeners that some eight hundred years after Trotula and other women professors organized and conducted a Department of Diseases of Women at the University of Salerno, Elizabeth Blackwell sought in vain for admission to the medical schools of Philadelphia and other cities.

About fifteen years ago, a young woman physician, a graduate of the University of Heidelberg, on hearing about the Woman's Medical College of Pennsylvania exclaimed: "A Woman's Medical College in America, the land of progress. What an anachronism." Ten years later the medical schools of her country were closed to women.

The Woman's Medical College of Pennsylvania blazed a trail in the past. It is a door of opportunity in the present and a safeguard against loss of opportunity in the future. It is a Temple of Learning of which the physicians of the world can well be proud. Anticipating the celebration of its one hundred years of service, the College has undertaken a Centennial Expansion Program. To keep open this door of opportunity we need your help.

CATHARINE MACFARLANE, M.D.
Vice-President of the College

The Practical Application of Penicillin in the Treatment of Syphilis*

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PENICILLIN therapy of syphilis has brought new hope for the patient with syphilis. It offers the possibility of "cure" without the dangers inherent in the arsenicals and heavy metals previously employed. Furthermore, the condensation of actual treatment into a period of two weeks or less is a saving of time and money, even though the currently used methods of penicillin treatment require hospitalization.

Before detailing the present schemes of treatment of syphilis with penicillin, it is important to keep in mind the fact that we are dealing with a new drug in this field. It was only in June 1943, that the first cases of early syphilis were treated with penicillin by Mahoney, Arnold, and Harris.[1] Thus these first cases, the longest observed, have been studied for a little more than four years. In syphilis this is too short a time to draw definitive conclusions about any form of therapy. This inadequacy of the period of follow-up is further emphasized by the fact that not only have we had to change our treatment schedules as more information became available, but penicillin itself has been changing during these past four years. On the other hand, under ordinary circumstances, the evaluation of a new antisyphilitic drug would have taken many years, but mass evaluation of penicillin has been possible through the combined efforts of outstanding authorities and leading clinics in the country. The treatment of early syphilis and neurosyphilis, in particular, were of such paramount importance to the armed forces, that they, together with the United States Public Health Service and the Committee on Medical Research of the Office of Scientific Research and Development, under the general auspices of a Penicillin Panel appointed by the Subcommittee on Venereal Diseases, National Research Council, combined their efforts to determine effective dosage schedules in as short a time as possible. This study was continued until December 31, 1945, when it was taken over by the Syphilis Study Section of the National Institute of Health of the United States Public Health Service, under which it still continues. However, despite these combined efforts no final conclusions can yet be made as to either results of penicillin therapy in syphilis or the best treatment schedules to be employed in various phases of the disease.

The composition of the penicillin preparation used plays an important role in its antisyphilitic activity. In a recent publication, Stokes[5] stated that the crude mixtures of penicillin that were first employed in the treatment of syphilis did seem superior to the more refined commercial penicillins now available, and to date no one has adequately studied the synergistic action of the various penicillins. It is now known that for effective treatment of syphilis it is essential that penicillin contain a large portion of the G fraction. K is not effective in the treatment of this disease, since it is rapidly inactivated in the circulating blood[3]. There was a period, 1945 and 1946, when commercial penicillins contained a large portion of the K fraction. This has now been corrected so that commercial penicillin mixtures contain from 75 to 90 per cent G. In addition, pure crystalline penicillin G is rapidly becoming available for the treatment of syphilis[2]. The results with the latter have not yet been evaluated.

In spite of our still limited knowledge about the penicillins and their ultimate usefulness as antisyphilitic agents, we can say that penicillin is an effective, non-toxic therapeutic agent in the treatment of early and late syphilis, but as Stokes and Beerman[6] emphasize, "for the present, the physician using penicillin must remember that the principles of syphilis therapy apply to penicillin treatment as well as to that employing arsenical and heavy metal. Furthermore, the wide applicability of penicillin in mass treatment of syphilis

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is limited by the necessity for hospitalization if used in accordance with present techniques."

Since details about the history, chemistry, and pharmacology of penicillin are readily available in many recent publications, only those points needed for the understanding of the use of this antibiotic in syphilotherapy will be mentioned briefly. Of the salts of penicillin now isolated the sodium and calcium salts are freely available and in current use. These compounds may be dissolved in water, saline or glucose solution without loss of potency. The unitage of penicillin is measured in terms of "Oxford" or "Florey" units. These terms are used to designate the antibacterial activity of the drug, usually measured against a special strain of Staphylococcus aureus. A master standard as to crystalline penicillin G has been established by the United States Food and Drug Administration of the Federal Security Agency at 1667 units per milligram[8].

At present the intramuscular route is preferred for the administration of penicillin preparations in syphilotherapy. The injections are given in the buttocks and an aqueous or saline solution of a soluble salt is usually employed. These injections must be given every 2 to 3 hours to maintain an effective blood level. Under such circumstances, penicillin treatment is still a procedure which for optimum conditions requires hospitalization. Many attempts are being made to devise a system employing absorption-delaying methods so that the treatment may be given on an ambulatory basis. Bronfenbrenner and Favour[6] have summarized the experimental means that have been tried for delaying the excretion of penicillin. One type of experimentation has been directed toward delaying excretion by the kidneys, using such substances as diodrast, para-amino-hippuric acid and sodium benzoate[7]. Another line of approach has been to maintain more prolonged blood levels through methods aimed at delaying absorption from the site of injection. These methods have varied from the use of ice-packs locally to the employment of a mixture of beeswax-peanut oil as a vehicle for penicillin. The latter procedure offers most promise in the treatment of syphilis. It was first reported on clinically in syphilis by Romansky and Rittman[5]. Calcium penicillin, which is less hygroscopic than sodium penicillin, is the salt of choice for this mixture. A preparation of pure penicillin G in beeswax-peanut oil, made by a modification of the Romansky formula, is now becoming available. This mixture is fluid at room temperature and is therefore easier to administer than calcium penicillin in beeswax-peanut oil[9]. To date insufficient cases have been treated with the "G" preparation to enable one to make definite statements regarding its status.

Although penicillin may produce some toxic reactions, they are so minor that they seem insignificant when compared with those following the use of the arsenicals and bismuth compounds. No deaths have been reported as a direct result of penicillin therapy. Local reactions, such as cellulitis or abscess, although painful, are rare and not serious, and can be largely prevented by proper administration of the drug deep into the buttock. This pain at the site of injection, however, is not always a matter of improper technical procedure since it varies with the lot or type of drug used. For example, purified crystalline G appears to be less painful than commercial penicillin. Urticaria is the most common cutaneous reaction resulting from penicillin treatment. According to Pillsbury, Steiger, and Gibson,[10] it occurs in 1.8 per cent of syphilitic patients treated with penicillin. These authors also state that the incidence of post-penicillin urticaria is on the increase, but fortunately the new so-called antihistamine drugs, benadryl and pyribenzamine, may lessen the severity or completely control the individual case.

The Jarisch-Herxheimer reaction, or therapeutic shock, occurs with the administration of penicillin for syphilis as with the arsenicals. According to Holley[11] it develops in over three-fourths of patients within the first 24 hours after treatment is begun, while Leifer[12] gives the incidence as high as 91.6 per cent. Olansky[13] noted that this reaction was independent of the size of the dose since a single dose of 1000 units of penicillin in both early and late syphilis may produce a severe febrile Herxheimer reaction. Since this reaction occurs more frequently with penicillin than with arsenotherapy, it must be kept constantly in mind and avoided when possible. In early syphilis it is usually manifested by elevation of temperature and frequently by exacerbation of mucocutaneous lesions. These symptoms usually subside within 24 hours.

The question as to whether abortion or threatened abortion represents a form of therapeutic shock in pregnant women with early syphilis treated with penicillin has given rise to some discussion. Ingraham, Stokes, Beerman, Lentz, and Wammock[14] feel that penicillin may be a factor in producing abortion in the early syphilitic. They consider it to be a type of Herxheimer reaction, particularly when the placenta is diseased. In these patients the reaction may be avoided by reduction of the initial dosage for 48 hours. Bed rest and sedation may also be necessary. If bleed-

ing occurs, the penicillin should be temporarily withheld.

The Herxheimer reaction is also seen frequently in infantile congenital syphilis and may be very severe due to the overwhelming character of the infection. When penicillin was first used by our group in the treatment of early congenital syphilis, the initial dose was kept low. However, we now feel that it is more important to start off with adequate dosage in order to "offset possible secondary infection."[15]

The Herxheimer reaction in the neurosyphilitic may be alarming. Depending on the type of involvement which the patient presents, one may observe convulsions, mania, and hallucinations in patients who previously had no such symptoms. Temporary exacerbation of lightning pains is encountered. Paretics who appeared in good condition may deteriorate very rapidly. Primary optic atrophy may occasionally progress rapidly to near blindness within a period of six weeks.[5] For the avoidance of such reactions, graded small initial doses and even in some instances conceivably heavy metal preparatory treatment may have to be invoked.

Penicillin in Early Syphilis. Early infectious syphilis was the first type of the disease to be treated with penicillin. The drug was found to be spirillicidal in as low dosage as 100 Oxford units intramuscularly every three hours.[4] Later study indicates that organisms disappear from the surface lesions in from 6 to 60 hours, the average time being 12 to 18 hours.[5] It follows then that only small doses of penicillin given over a relatively short time are necessary to heal surface lesions completely. Such dosage is not adequate for cure. Prolongation of treatment is necessary, and less than 2.4 million units should be rated as ineffective. Stokes and Beerman,[6] among others, remarked early that it is not multiple peaks of high concentration of penicillin that achieve "cure," but it is prolongation at lower concentration. Because surface lesions respond so quickly to treatment with small doses of penicillin, it must be kept in mind that early syphilis may be masked by the dosage used for the treatment of acute gonorrhea. In addition to the rapid disappearance of surface spirochetes and healing of lesions, serologic reversal takes place at approximately the same time as it did following intensive arsenical therapy, even when as low a total dosage as 600,000 Oxford units is used. Therefore, it was early observed that these criteria could not be used as a measure of cure. The only useful criterion of cure is relapse, whether this be infectious or serologic relapse, or progression to late manifestations of the disease. "Cure" rate cannot be determined in one year or even in a two-year period, but it will take from five to ten years to complete this evaluation.

Our aim of treatment in early syphilis must be to attain and maintain seronegativity. In late syphilis this is not necessary for evaluation of cure, nor will it be obtained in a large percentage of cases. Quantitative blood serologic tests for syphilis are essential in the follow-up of penicillin-treated patients. There may occasionally be a sharp rise in titer following the introduction of penicillin therapy. Usually, however, there is little change within the first two weeks. After this there is a sharp drop, and it continues downgrade for the first two months, the fall becoming more gradual thereafter. The serologic test for syphilis usually becomes negative between 90 and 150 days following penicillin therapy.[5] The titer may fluctuate at a very low level (2 to 4 units or less) up to a year in some cases before becoming negative. If the titer remains high or falls initially and then rises, it seems advisable to re-treat at the end of six months.[5]

Clinical relapse is prone to occur where there is an early drop in titer followed by a rapid or steady rise, or where the serologic test for syphilis has become negative, then again becomes positive and shows an upward trend. Moore[5] concludes that the rate of seroreversal may be an indication of the duration of infection as it tends to occur earlier in seropositive primary syphilis than in secondary syphilis.

The problem of differentiating relapse from reinfection has become of particular importance since the introduction of intensive therapy, and it is far from being solved. During the arsphenamine era reinfection was rated by Stokes, Schoch, and Ireland[16] as "a comparatively rare event in the course of syphilis today." Intensive arsenotherapy and penicillin therapy supposedly "cure" syphilis so rapidly that the host has no time to develop an immunity. Moore[5] states that "cases acceptable as supposed reinfection are from 5 to 10 times as common as in previous years." Unfortunately, it is almost impossible in many instances to differentiate relapse from reinfection. Where there is doubt, the patient is classified as a treatment failure by the conservative investigator.

As mentioned before, systems of treatment for syphilis with penicillin have been constantly changing. Because of high incidence of failure, all systems employing more than a 3-hour interval, less than seven-and-one-half days' total treatment time, and less than 2,400,000 Oxford units total penicillin (unless combined with arsenical or fever)

have been dropped. A recent follow-up report by Bauer, Bundesen, Craig, and Schwemlein[18] on 339 patients with darkfield positive lesions of primary and secondary syphilis, treated with 600,000 units of penicillin in a seven-and-one-half day period indicated a 28.6 per cent failure rate after only 18 months of follow-up. One hundred and nineteen patients treated and followed for a period of 12 months by Holley[21] showed a relapse rate of 27.4 per cent following therapy with 2,400,000 Oxford units of penicillin divided into 30 doses in four days. In Leavitt's[28] hands even a total of 2,400,000 units of penicillin given as 40,000 units every three hours in a seven-and-one-half day period gave a failure rate of 27.3 per cent in case of secondary syphilis at 12 months. Heller,[19] however, gives the failure rate in this latter system of treatment as 23 per cent of all early syphilis.

The effect of the duration of the patient's syphilitic infection on the penicillin result must be kept in mind. The longer the patient has had his infection before commencing treatment, the higher will be the failure rate. It has also been shown that patients who have had previous relapses will not respond as well to a given system of penicillin therapy as will those with untreated early syphilis.[6]

In the light of our present knowledge, Stokes[2] recommends that early syphilis be treated with a total dose of between 2,400,000 and 6,000,000 Oxford units. The larger doses are recommended for darkfield positive primary and for secondary syphilis. Mahoney is using 3.6 million units with a 2-hour interval in seven-and-one-half days. In any case, treatment should be carried over a minimum of seven-and-one-half days. Moore[5] recommends 3,600,000 Oxford units for seronegative primary syphilis, and 5,400,000 Oxford units for seropositive primary and secondary syphilis. When possible this should be given every two hours, but in any event is spread over a seven-and-one-half day period. For relapsing syphilis previously treated with penicillin, he recommends the repetition of the penicillin course plus 360 milligrams of mapharsen (or other arsenoxide). Stokes,[3] however, recommends doubling the initial dose of penicillin in addition to the arsenoxide.

There is a difference of opinion among authorities as to the advisability of adding either arsenical or fever to penicillin therapy of early syphilis. The addition of either of these agents does increase the mortality and morbidity rates. If a satisfactory system of treating syphilis with penicillin alone can be devised, it will certainly be more desirable. Various combinations have been used. Three hundred thousand Oxford units of penicillin plus 320 milligrams of arsenoxide (in 8 daily injections) gives as good results as 1,200,000 Oxford units of penicillin alone.[6] The basis for the study of combined therapy is the work of Eagle, Magnuson, and Fleishman,[20] who showed a pronounced additive effect from mapharsen when used with penicillin in the treatment of experimental syphilis. Heller[19] found a failure rate of 13 per cent after 10 to 11 months' follow-up, using 1,200,000 Oxford units of penicillin plus 320 milligrams of arsenoxide, while the use of the above two with the addition of three injections of bismuth gave only 8 per cent failure rate. One death occurred in this latter series of 4,312 cases; however, as previously stated, no known deaths have occurred with penicillin alone.

The combination of 1,200,000 Oxford units of penicillin and 1.0 gm. bismuth subsalicylate given as 0.2 gm. on the first, third, fifth, seventh, and ninth days of treatment, shows only slightly better ultimate results than penicillin alone; however, relapse is delayed.[6]

The Chicago Intensive Treatment Center[21] has experimented with penicillin plus fever, and has found no advantage in the combination; in fact, the results tend to be poorer.

As mentioned earlier, the treatment of syphilis with penicillin-beeswax-oil is fairly recent and there is no long-term follow-up or mass evaluation as yet to present definite conclusions. Thomas[22] has recently reported on the results in 802 cases of darkfield positive syphilis treated with 600,000 Oxford units of penicillin-beeswax-oil once daily for eight days or a total of 4,800,000 units. These patients were treated between August 1945 and August 1946. The percentage failure rate to January 1947, was 6.8 for the seronegative primary group, 12.6 for the seropositive primary group, and 11.0 for the secondary group. At a subsequent report[23] in April 1947, only 14.9 per cent of the 529 patients followed had an unsatisfactory result. If further results verify the early observations, this method of treatment will be a step toward ambulatory treatment of syphilis with penicillin. So far these systems have been used largely on an in-patient basis and the factors of keeping the patient under regular daily treatment, giving treatment at a set interval each day, and the effect of exercise on the absorption rate, must be met before they will prove satisfactory as a clinic or office procedure.

Although penicillin can be given in seven-and-one-half days, this does not eliminate the necessity for systematic follow-up. In early syphilis we at the University of Pennsylvania and the Pennsylvania Hospital in Philadelphia prefer the follow-

ing schedule. Clinical examination and titered blood serologic tests for syphilis are performed monthly for the first year following the completion of therapy. These examinations are continued at three-month intervals during the second year, and every six months during the third. A spinal fluid examination should be done between the sixth and twelfth months following treatment.

Treatment of the Syphilitic Pregnant Woman. Penicillin treatment of the syphilitic pregnant woman has been spectacular in preventing congenital syphilis. The results are so much better than those obtained with arsenical and heavy metal therapy that penicillin is rapidly becoming the treatment of choice in this field. Before the introduction of intensive therapy, it was not possible to "cure" the infection in the mother by treatment confined solely to the period of pregnancy. Intensive arsenical therapy, moreover, was not ideal, because of the high incidence of severe toxic reactions. Furthermore, not enough arsenical reached the already infected fetus to cure it of syphilis before delivery. Woltz[24] and others have demonstrated that penicillin is transmitted in appreciable amounts through the placenta. Many women with early syphilis have been treated only a short time before delivery, yet their infants are healthy. Undoubtedly some of these had congenital syphilis which was cured in utero. The few reactions that follow penicillin therapy of the early syphilitic are encountered with treatment of the pregnant woman. Beerman and Ingraham[25] state that these may be more marked than in the nonpregnant patient. In our series at the University of Pennsylvania, the febrile reaction was frequently accompanied by abdominal pain, gastrointestinal disturbances, and occasionally signs of threatened abortion. Ingraham, Stokes, Beerman, Lentz, and Wammock[14] feel this may be evidence of therapeutic shock and believe this reaction to be a real threat which may be avoided by reduction of the initial dosage for 48 hours. Others do not agree. Goodwin and Moore[26] noted that the incidence of abortion in penicillin-treated syphilitic women was not so high as in the nonsyphilitic. In the various series by Ingraham et al,[14] Goodwin and Moore,[26] and others, the penicillin-treated mother has given birth to from 95 to 98 per cent living, nonsyphilitic infants, despite the fact that most of these mothers had early syphilis. The satisfactory doses have varied from 1,200,000 to 2,400,000 Oxford units of penicillin in seven-and-one-half days. At the present time a minimum of 2,400,000 Oxford units of aqueous penicillin is recommended. This should be given in divided doses every 2 to 3 hours for seven-and-one-half days. The results are good regardless of the duration of pregnancy at the time treatment is begun. Following completion of penicillin treatment, the pregnant woman should have a titered serologic test for syphilis in addition to clinical examination at least once every month until delivery. Preferably this procedure should be continued for the first year, and at appropriate intervals, thereafter. Re-treatment with penicillin should be given before delivery if there is evidence of clinical or serologic relapse or if the serologic titer does not decline within 3 to 4 months following the completion of treatment. The average length of time after penicillin therapy to the development of seronegativity in our series at the University of Pennsylvania[14] was 190 days; the earliest sustained reversal was on the 64th day and one did not become negative until the 365th day. The conclusion is drawn that the serologic response to penicillin treatment of the pregnant woman is slower than the average for early acquired syphilis. It is not necessary, however, for the mother to be seronegative at time of delivery in order for the infant to be nonsyphilitic.

The infant should be studied for evidence of congenital syphilis. A baseline blood serologic test and a roentgenogram of the long bones should be taken within five days after birth. There may be a carry-over of reagin from mother to infant and for this reason a positive blood serologic test for syphilis in the newborn with no other evidence of the disease does not establish a diagnosis of syphilis. If the initial blood serologic test is positive, it should be repeated in two weeks and weekly thereafter until it becomes negative or until a diagnosis of syphilis is definitely established in the infant. If negative, it is recommended that the test be repeated monthly to the age of six months. Thereafter the test should be made at intervals of three months if feasible.

Penicillin in Congenital Syphilis. Penicillin in aqueous solution given intramuscularly is as satisfactory a method for the treatment of infantile congenital syphilis as has been thus far devised, and is "the best single agent yet employed for the treatment of congenital syphilis" (Platou et al[27]). It has been difficult to work out a satisfactory scheme of treatment for this type of syphilitic infection due to the severity of the disease in many infants. Appropriate supportive pediatric care is essential for the child who appears critically ill from congenital syphilis. Results procured through a co-operative study of the effect of penicillin in infantile congenital syphilis were presented at the meeting of the American Medical Association in San Francisco in July 1946.[27] Up to this time,

252 infants had received penicillin therapy and been observed for a sufficient amount of time to enable the investigators to draw definitive conclusions about the schemes of treatment employed. As would be expected, the majority of severe infections was found among the youngest infants. Twenty-seven patients died during penicillin treatment. Nineteen of these deaths (from all causes) occurred in infants under three months of age. Lowered resistance and secondary infection undoubtedly account to a large extent for these deaths. The spinal fluid was normal in only 37.4 per cent of those examined before therapy was begun. Cerebrospinal fluid abnormalities, however, improved markedly following penicillin therapy. In this study the over-all results were satisfactory in 74 per cent of the cases. Clinical relapse occurred in only 2.4 per cent of patients. The serologic test for syphilis in the majority of infants became negative between the fourth and twelfth months following completion of treatment. Mild therapeutic shocks occurred in only 4 per cent of infants of the series and over half experienced no reaction to treatment. From this evidence the conclusion was drawn that it is not necessary to reduce the initial dosage in the penicillin treatment of infantile congenital syphilis, especially when adequate pediatric care is given. Results were considerably better where more than 40,000 Oxford units of penicillin per kilogram of body weight were employed, and it was recommended that the dose be raised to at least 100,000 units per kilogram, the total to be divided into approximately 120 injections over a period of 15 days. Other authorities suggest even larger doses. For example, Stokes[2] advocates 400,000 units per kilogram. Principles of post-treatment observation outlined above for early syphilis, apply to congenital syphilis. Changes to seronegativity are not unusual a year or more after treatment is completed and it has been noted that clinical relapse may occur as late as 11 months post-penicillin (Platou et al.[27])

Late Congenital Syphilis. Results of penicillin therapy in late congenital syphilis are disappointing. Gummatous lesions (as in acquired syphilis) heal rapidly. The blood serologic response is the same as in late acquired syphilis, i.e., very little, if any, reduction in serologic titer. Clutton's joints do not respond to penicillin therapy, and the frequent accompanying complication, interstitial keratitis, may develop while the patient is receiving penicillin (Yampolsky and Heyman[29]). The effect of penicillin therapy alone on interstitial keratitis varies greatly and is disappointing. It is less effective than fever therapy. Analysis of a series of 55 cases of interstitial keratitis treated with penicillin and combined other means led Moore[5] to the conclusion that penicillin combined with fever and metal chemotherapy, gives better results than with fever and metal chemotherapy alone. For interstitial keratitis Moore[5] advocated treatment with from 4,000,000 to 8,000,000 units of penicillin; administered as the soluble preparation intramuscularly combined with the local application of penicillin in the eye. If response is not satisfactory within a few weeks, fever therapy should be instituted. The treatment by penicillin of neurosyphilis in the congenital syphilitic will be discussed with that in the adult.

Latent Syphilis. The use of penicillin in latent syphilis is as yet unevaluated as there is no measuring stick for cure other than long-term observation to detect progression. Serologic response in this phase of the disease is untrustworthy. Stokes,[2] among others, recommends that the usual course of penicillin employed in the treatment of early syphilis be followed by 20 to 30 weeks of bismuth. One should not promise the patient serologic reversal, since experience so far indicates that penicillin will not reverse positive serologic reactions to the tests for syphilis that have not become negative under arsenical and heavy metal therapy. Indeed it may be even less effective in this respect and actually induce an increase in titer. The fact that the later in the course of the acute disease the penicillin treatment is started, the poorer is the response, may account for the lack of serologic reversal to negative in latent syphilis.

Late Syphilis. Penicillin treatment is outstanding for late cutaneous and osseous syphilis. Lesions of the skin heal rapidly after the administration of 1,200,000 to 2,400,000 Oxford units and do not recur, although the serologic reactions to the tests for syphilis tend to remain positive. Osseous lesions respond equally well. Not only does the penicillin heal the syphilitic process but, at the same time, it exerts a beneficial effect on the secondary invading organisms. The results of penicillin therapy in visceral syphilis are also good. Gummatous hepatitis and gastric syphilis respond quickly, but in the former treatment should be begun with small doses in order to avoid therapeutic shock. Penicillin cannot yet be evaluated in cardiovascular syphilis. Actually it may be hazardous since in a few cases improperly used, it has induced therapeutic shock, like the arsenicals. In this complication of syphilis it is particularly important to remember that this drug acts like an arsenical and may produce therapeutic shock and paradox of dangerous proportions.

Russek[29] reports fifteen cases of cardiovascular syphilis, including four with aortic aneurysm which showed no untoward effects following penicillin therapy in the dosage of 40,000 units every two hours for 85 injections. Only one of the fifteen showed transient mild recurrent pain at rest which occurred on the third day of treatment. On the other hand, Dolkart and Schwemlein[30] report two patients with syphilitic aortitis in whom it was necessary to stop treatment with penicillin because of untoward effects.

Penicillin in Neurosyphilis. Penicillin therapy is effective in the treatment of syphilis of the central nervous system. Proper interpretation of the results, however, is extremely difficult because of the lack of proper controls. The physician must depend to a large extent upon the subjective complaints of the patient, since little change can be expected in the almost totally irreversible objective neurological findings, and because the cerebrospinal fluid abnormalities are seldom adequately evaluated in private practice. Penicillin produces excellent results in the types of neurosyphilis in which meninges are primarily affected, i.e., asymptomatic neurosyphilis, acute syphilitic meningitis, and so-called late diffuse meningovascular neurosyphilis. In these patients the treatment results in the disappearance of many symptoms with almost complete restoration to health. This is an expression of the fact that like all antisyphilitic medicaments, penicillin resolves inflammation, and has little effect on degenerative processes. In the types of neurosyphilis associated with predominance of degenerative changes, as in paresis, tabes dorsalis, and primary optic atrophy, the clinical result will depend on the degree of parenchymal tissue damage before treatment is begun. Unfortunately, many patients have both inflammatory and degenerative changes. This makes interpretation of results difficult.

In order properly to evaluate the type of neurosyphilis and the treatment to be employed, it is essential to determine the activity and type of the process. This is accomplished by study of the cerebrospinal fluid formula. The commonly accepted standard types I, II, and III afford a valuable guide to prognosis. In the penicillin treatment of neurosyphilis the first and most striking effects are seen in the cerebrospinal fluid[31] and a large part of the improvement obtained is manifest within 120 days. Fluids with minimal and moderate abnormalities (Types I and III) respond best, the former in almost 100 per cent of cases. Type III ("pre-paretic") also responds well. The strikingly abnormal fluids of acute syphilitic meningitis and severe abnormalities in the cerebrospinal fluid formulas of asymptomatic neurosyphilis likewise are rapidly improved. Blood serologic response is much slower and the fact that the blood reaction may never become negative is for all practical purposes unimportant.

In many patients, including those with asymptomatic neurosyphilis, a definite sense of well-being associated with gain in weight, is observed. Moderate improvement in lightning pains of tabes dorsalis has been noted. Penicillin can alter the mental symptoms of paresis depending on the amount of degenerative tissue damage present before treatment. It exerts no beneficial effect on Charcot joints. Progression of primary optic atrophy may seem to be arrested, but the end results are not yet determined. Penicillin therapy has been effective in the treatment of congenital neurosyphilis (other than juvenile paresis).[32]

Herxheimer reactions in neurosyphilis may be alarming and are to be avoided when possible. We have seen several cases in which transient convulsions have developed within the first day or two of treatment. Mania, hallucinations, exacerbation of lightning pains, or even rapid paretic deterioration may occur within the first few days of therapy. In primary optic atrophy the remaining sight may be suddenly lost. Here, again, it is important to remember that penicillin acts like an arsenical, and in patients in whom a therapeutic shock might be anticipated, the treatment should be started with caution.

Neurosyphilis has been treated with doses of penicillin varying from 1,200,000 to 10,000,000 units. At the University of Pennsylvania,[33] 361 patients with different types of central nervous system syphilis have been treated and observed from 90 to 1100 days. Fifty-two to 55 per cent have attained normal or near-normal spinal fluid findings while 74 per cent show marked improvement. Definite symptomatic improvement was noted in 46 per cent of patients with paresis, in 35 per cent of those with taboparesis, in 33 per cent of tabetics, and in 47 per cent of cases having meningovascular neurosyphilis.

Malaria has been combined with penicillin in treatment of the most serious forms of neurosyphilis. Eagle and Musselman[33] have shown in rabbits that fever increases the curative effect of penicillin by eight times. Rose and Solomon[34] combined in patients "one-half course' 'of fever with 3,000,000 units of penicillin intramuscularly and concluded that the results equalled treatment with a full malarial siege without penicillin. .Concurrent administration of malaria and penicillin gave the best results in dementia paralytica and most observers feel this combined treatment should

be used in these cases as well as in those with primary optic atrophy.

Our present knowledge indicates that neurosyphilis should be treated with a total dose of from 4,000,000 to 10,000,000 units of penicillin given in a period of from 10 to 20 days. A 2-hour[3] interval may give best results. The larger doses should be used in paresis, taboparesis, tabes dorsalis, and primary optic atrophy, perhaps combining penicillin with malaria. The smaller dose may suffice for asymptomatic neurosyphilis, acute syphilitic meningitis, and meningovascular neurosyphilis.

The spinal fluid should be re-tested every three months the first year after treatment, at six months' intervals the second year, and yearly thereafter as indicated. In addition, neuropsychiatric re-examination and tests of visual acuity and fields, should be done at least this often.

Conclusion.

1. Penicillin is effective treatment for early syphilis, benign late syphilis, asymptomatic and symptomatic neurosyphilis, and infantile congenital syphilis. This form of therapy, properly given, surpasses all others in the treatment of syphilis in pregnancy.

2. The evaluation of penicillin therapy is being continued and the "time-dose" relationship adjusted as results indicate.

3. Although penicillin produces few reactions, therapeutic shock may be serious, especially in late syphilis. This reaction may be avoided by lowering the initial doses.

4. Treatment of syphilis with penicillin requires hospitalization at the present time, but the use of penicillin-beeswax-peanut oil may overcome this disadvantage.

5. The addition of either an arsenical or fever to penicillin therapy has not established its value as yet and exposes the patient to increased risk of serious reaction.

6. Dosage to be employed in the various types of syphilis are detailed in the text.

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The Relationship of Anorectal Lesions to Disease in General

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DESPITE THE FACT that Joseph MacDowell Mathews, often called the first proctologist, began to devote serious and scientific attention to diseases of the lower bowel as early as 1880, the rectum is still too frequently on the "deferred" list in examinations by interns, students, and practicing physicians.

While much has been learned in recent years, the whole picture of anorectal disease can not, of course, be given. Chiefly from the background of personal experience, therefore, a few aspects of certain of these disorders, including their relationship to the body as a whole, will be presented in order to substantiate the basic importance of this small anatomical area.

Before anorectal disease can be found, the patient must necessarily be questioned, in detail, as to the presence of bleeding, discharge, pain, protrusion, swelling, itching, diarrhea, constipation, and continence, to mention a few of the local symptoms. In addition, the possibility of local silence despite anatomical change exists, and the presence of abdominal distress, often simulating "peptic" ulcer, appendicitis, "irritable colon," gall-bladder disease, genito-urinary dysfunction, or a neurosis, may give way to a diagnosis when the examining finger feels, and the inquiring eye sees, the perineum, the pilonidal and perianal areas, the regional lymph glands, the anal orifice, and the rectal ampulla. Needless to say, such an examination is simply part of a complete physical examination, and review of the patient's history. A good light, and adequate position, whether it be in the inverted, knee-chest, lateral, or over a bed or chair, and reasonable care, will many times disclose an anorectal lesion capable of correction or control. While many tumors, infections, and anomalies will thus be demonstrated, the proper use of a fifteen centimeter sigmoidoscope will be of extended aid to the general practitioner in the further detection of new growths, ulcerative changes, and varicosities, including hemorrhoids. A narrower instrument may be needed in infants, but age or the coexistence of other disease are not contraindications, provided the sigmoidoscope is introduced under direct visualization and air insufflation is minimized. Employment of a twenty-five centimeter or longer sigmoidoscope warrants previous training in its use. Perforation of the lower bowel during examination can and does occur. Its prompt recognition and treatment, with closure and the use of antibiotics, will offer such an infrequent and unfortunate patient a good chance of recovery.

So far as specific lesions are concerned, those associated with tumor formation, in its generic sense, are only too frequent. Tumors, for purposes of orientation, may be above or below the anorectal line. They may be true single or multiple neoplasms, benign or malignant (primary and secondary), or inflammatory in origin, representing localized collections of pus or solid granulomata. They may consist of nonviable material, as a fecal impaction, may arise from the anorectal tissues proper, or find their way to this region from contiguous structures or distant viscera. They may be primarily vascular in origin, as a thrombotic hemorrhoid, in contrast to an early melanosarcoma. Finally, they may give rise to pain, as in certain squamous cell anal carcinomata, to bleeding, as in rectal polyps, or remain silent, only to bring the patient to the physician when the liver is huge with metastases. While the eye, the finger, the biopsy, and the patient's story might be expected to furnish a diagnosis, in certain cases even additional studies will not result in a clear answer. For when a rectal mass is felt, it may be one of several in the bowel, and sigmoidoscopy

and double contrast enemas become essential. Any neoplasm requires removal; but multiple polyposis, with any one of the polyps possibly becoming malignant, would require colectomy, while a more limited resection may be sufficient for a single malignant lesion. Multiple primary neoplasms are being more frequently found, and a careful study of the entire gastro-intestinal tract may reveal additional growths. Similar studies would need to follow the detection of a mass in the rectovesical or recto-uterine pouch (otherwise known as Blumer's shelf), for such a lesion represents metastasis from a malignancy usually in the upper digestive structures, such as the stomach. This may cause the patient to seek help because of weight loss, weakness, anorexia, vomiting, upper abdominal distress, or jaundice. To be differentiated from true carcinoma, however, are the carcinoids, or chromaffinomas, which have a lower rate of malignancy, but which may be very small and yet metastasize widely.

Like true neoplasms, rectal granulomas may also be manifestations of systemic disease. Constipation, left lower or right upper abdominal pain, low grade fever, weight loss, depression, irritability, anorexia, weakness, anemia, or even signs and symptoms of a frank liver abscess, may be present in a patient with amebiasis. On the other hand, there may be bleeding, diarrhea, tenesmus, the patient possessing a bowel which is either ulcerated or exhibiting a tumor which would be difficult to differentiate from a true neoplasm without a biopsy showing the Amoeba histolytica in the intercellular spaces of the ameboma.

Tuberculosis is another systemic disease, the presence of which may be first suspected by the appearance of a large, indolent, perianal, anal, or rectal ulcer, a perianal fistula, a "cold" abscess, extrarectal obstructing bands or masses, or by the existence of hyperplastic, nodular lesions showing tubercles on microscopic examination. Occasionally, profuse bleeding from the lower bowel or symptoms of large bowel obstruction, together with fever and weight loss, will eventually lead to a focus of tuberculosis of the lungs, small intestine, genito-urinary system, peritoneum, bones, lymphnodes, or cecum.

If kept in mind, the venereal diseases may be recognized or suspected by their anorectal manifestations. A painful chancroidal anal ulcer, an irritating, purulent gonorrheal proctitis, the chronic ulceration of granuloma inguinale, may be found in individuals coming initially to a rectal clinic, but many "hemorrhoids" and "cancers" are really expressions of syphilis in all stages, or of lymphopathia venereum. The emaciated negro woman, who had an ulcerating, fibrotic, annular, rectal stricture, at times with rectovaginal fistula, with bloody or purulent semi-liquid stools over a period of months or years, resulting finally in complete obstruction, was, before the general use of the Frei test and the taking of biopsies, often misdiagnosed as having cancer. Many syphilitic lesions, owing to the nature of the disease, subsided without or in spite of treatment. Today, however, the recognition of multiple anal luetic fissures, the anal or rectal chancre, condylomata lata, gumma, proctitis, rectal crises, or the ataxic, insensitive anal sphincter of tabes dorsalis, together with dark-field examination before any local treatment is given, blood and spinal fluid examination, the study of the patient as a whole, and the adequate use of established anti-syphilitic drugs should place this communicable, systemic disease more firmly among those that are controlled.

Other diseases of the reproductive system may occasion lower large bowel symptoms. The prostatic abcess or cancer may produce tenesmus, a complaint of "pain in the rectum," difficulty in the passage of stools or even a mucosanguineous rectal discharge. Uterine fibroids may cause rectal obstruction by mechanical pressure, and endometriosis, bleeding or obstruction. while a pelvic abscess often gives rise to diarrhea. Cervical carcinoma may spread to the rectum. The use of radium vaginally, for cervical lesions particularly, also has great hazards for the rectosigmoid. Profuse hemorrhage from an acute proctitis due to irradiation may occur while treatment is still being given, but a more disabling picture is encountered later in the chronic ulcerating or stenosing rectal lesion, which may even go on to rectovaginal fistula formation, or be difficult to differentiate from a carcinomatous process.

On the other hand, urinary symptoms, such as frequency, pain, retention, or the passage of gas with a purulent urine, may be the result of rectal pathology. Cryptitis, anal abscesses, rectosigmoidal diverticulitis with vesical involvement, or anorectal surgery, especially in the male, will, at times, extend the problem into the urologic field.

Anal ulcers, though often caused by the specific infections already mentioned, are usually of the posterior, non-specific variety, and result directly or indirectly from the trauma produced by hard, dry stools or foreign bodies as they are pushed through the anal orifice. Although pain with defecation, followed by a short interval of ease before the recurrence of pain, and perhaps slight bleeding, may be considered characteristic of such a lesion, it has been noted that low back, thigh,

or "sciatic" pain, "arthritis", vaginismus, dysmenorrhea, flatulence, nausea, abdominal pains, anorexia, fullness, and constipation, have been investigated without a lesion being found until the anorectal area has been visualized. The correction of local anorectal pathology, whether due to infected crypts or papillae, hemorrhoids, fissures, fistulas, abscesses, tumors, or a stenosis of some sort, has often relieved the patient of symptoms referable to organs as far distant as the heart or the esophagus. The exact mechanism whereby "referred" distress is produced is still uncertain. Alvarez has advanced the concept of an intestinal gradient, while the autonomic nervous system, and simple mechanical obstruction have been suggested by others. The presence of pathogenic organisms in infected crypts, ulcers, or fistulas has added to the focal infection theory. Lest the pitfall be great of misdiagnosing all remote symptoms on the basis of local pathology, the condition known as regional enteritis may be recalled to illustrate the occasional physical connection between a perianal fistulous opening and a lesion, for example, in the ileum.

In agranulocytosis and leukemia, the mouth mirrors the pathology of these diseases, but the anus must also be remembered. A blood count in a patient presenting himself because of anal ulceration will, at times, reveal a blood dyscrasia.

The causes of rectal bleeding are too many for discussion. Its presence demands thorough examination of the lower bowel. Hemorrhoids, a common cause of bleeding, may be associated with rectal carcinoma, cardiac decompensation, hepatic cirrhosis, or pregnancy. Bleeding may be an expression of generalized disturbances, as scurvy, especially in children; of vitamin K or prothrombin deficiencies (sometimes induced by antibiotic therapy); of advanced renal disease, as in azotemia; of thrombotic vascular derangements, as in the terminal phase of hypertensive cardiovascular-renal disease; or of diverticulosis of the bowel as high as the duodenum. On the other hand, a profound secondary anemia may be without apparent cause, unless the possibility of continued blood loss from "piles" is considered.

As in the case of bleeding, the occurrence of "diarrhea" warrants palpation and visualization of the area under consideration. Bacillary dysentery and ulcerative colitis from any known or unknown cause, are well followed with the sigmoidoscope. At times, an acute enterocolitis is complicated by a perirectal abscess. Sprue, pellagra, parasites, allergies, emotional disturbances, or a gastrocolic fistula may be connected with mucosal and functional lower bowel changes. In hyperthyroidism, gastric achlorhydria, and steatorrhea of varied origin, sigmoidoscopy may be valuable chiefly because of negative findings.

If the physician is told that a patient is incontinent or has chronic diarrhea, digital examination of the rectum before the services of the roentgenologist or sigmoidoscopist are requested, will frequently reveal a fecal impaction, particularly in children, in elderly individuals, and in any individual following a barium meal. Indeed, failure to determine the presence of an impaction has led to colostomy being done for intestinal obstruction, appendectomy for "chronic (recurrent) appendicitis," or cholecystectomy for "chronic cholecystitis," or insult may be added to injury by the ordering of a gastro-intestinal study.

To illustrate the many sided aspects of proctologic disorders, the symptom of "pruritus ani" need only be mentioned to pose the questions: What is it? Who should treat it? True it is that organic lesions of the anus, such as hemorrhoids, fissures, mucosal prolapse, may give rise to itching, relieved by surgical removal of the pathological condition. But the proctologist is called upon to treat pruritus when its cause is a fungus infection, diabetes mellitus, drug or food sensitivity, irritation from vaginal discharges, excessive perspiration, friction, or uncleanliness, pinworm infestation, vasomotor disturbances associated with the menopause, or a frank neurosis, which, like cancerophobia, requires the perspective of a psychiatrist.

Added to the diagnosis and treatment of anorectal lesions are the public health and preventive factors. The simple rectal thermometer or the enema tip have spread gonorrhea and dysentery, or caused rupture of the rectum. The finger, touching the highly contagious condyloma or anal chancre, has been the means of transmission of syphilis. And should not the detection of rectal lymphopathia venereum require its reporting to the local health authorities, as is mandatory with other communicable diseases? When instruments or gloves are washed, perhaps placed with needles and syringes, and "sterilized," the presence of spores of the anaerobic bacilli, amebic cysts, viruses, such as those of poliomyelitis and infectious hepatitis, all of which may be resistant to a "quick boil" at room pressure, or a dip into an antiseptic solution, places a responsibility on the physician which is not usually realized. The anal crypts may harbor cysts, ova, the typhoid-dysentery group of organisms, or other pathogens, in a carrier. The sigmoidoscope may reveal unsuspected lesions, for example, of schistosomiasis in a person entering a locality where the presence of

intermediate hosts may permit the disease to become endemic. Through public education and the interest of the medical profession, food-handlers and "baby sitters" may, in the future, be examined "below the belt" as well as above it. Lastly, better general study and preparation of the patient before anorectal surgery is done, will prevent a number of distressing postoperative situations.

Queries suggested by the presence of a flaming-red, velvety rectal mucosa in a white woman under study for an anemia defying clear classification or by the marble-like appearance of the rectum in a Negro male, whose only other positive findings are those of hyperglobulinemia and hyperproteinemia, may become answerable if the practitioner keeps the rectum in mind, and if those experienced in the examination of the lower few inches of the bowel are interested in determining further the relationship among dermatologic, hematopoietic, nutritional, psychiatric, infectious, allergic, metabolic, collagenous, or vascular disorders, whether the individual be eight hours or eighty years of age. The continued recording of findings on photographic film or by drawings, and their cataloging; the use of filters and other technological advances, the teaching of medical students and internes to examine the anorectal area, will help to increase our knowledge of proctologic disease in all its phases.

The broader aspects of anal and rectosigmoidal disease have been discussed with the purpose of indicating the inter-relationships with other organ systems. The patient is, after all, a whole complex organism, and any disturbance in one of its parts may make its effects felt far beyond the point of origin.

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Surgical Treatment of Hypertension

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As a cause of death hypertension exceeds cancer in importance. No form of medical therapy significantly alters the progress of the disease. Surgery alone offers hope for these unfortunate patients. Prolonged periods of blood pressure lowering, the relief of hypertensive symptoms, the arrest of progressive visceral damage, and an increased life expectancy are well established results of sympathectomy for hypertension. There is, however, no certain method of predicting the end-result of the planned surgical treatment in the individual case.

By surgery we attempt to correct the pathological physiology underlying the elevated pressure. We are concerned only with essential hypertension. There is no place for sympathetic surgery in the treatment of hypertensive states caused by primary renal, cerebral, cardiovascular, or endocrine disease. The altered physiology of essential hypertension is now partly understood. Observers have called attention to the vasomotor instability common to so many of these patients. The patient with essential hypertension exhibits an increased vasopressor response to afferent impulses from somatic, cortical, and visceral sources. The effects are mediated through the sympathetic nervous system. Rest and sedation will often lower the elevated pressure to normal. The abnormal vasoconstrictor tone produces a reduction in renal blood flow which in turn results in the elaboration of pressor substances exerting a humoral influence on blood pressure. This vicious cycle maintains hypertension. Over a period of time hypertension produces arteriolar sclerosis involving various organs. One must therefore attempt to halt the process before organic visceral damage has become irreversibly advanced.

Evaluation of Patients for Surgery

The clinical study of the hypertensive patient must be complete before operation is considered. Evidence of a primary cause for the condition is sought through history, physical examination, laboratory studies, and x-ray. Intravenous urography will often disclose evidence of an adrenal tumor, or a non-functioning kidney. Hormone assays, x-ray of the pituitary fossa, or basal metabolic rate occasionally reveal an unsuspected endocrine basis for the hypertension. In addition, there are patients who have tolerated their hypertension for many years without symptoms or evidence of progressive constitutional damage. These patients do not require sympathectomy. The remaining large group of essential hypertensive patients who have symptoms and evidence of progressive constitutional involvement are candidates for surgical treatment.

In the further study of the patient one must ascertain the existing damage to the kidneys, cardiovascular system, and brain. Clinically, renal function is estimated by concentration tests, urea clearance and blood urea nitrogen determination, and urinalysis. When these studies indicate obvious impairment of renal function, the renal damage is advanced. An elevated blood urea nitrogen level and concomitant evidence of renal failure is one of the few definite contraindications to surgery. We have seen no benefit from operation in patients with this degree of renal impairment.

The orthodiagram and electrocardiogram give a fair picture of heart size and the state of the myocardium. A history of congestive heart failure is important. While it is necessary to have a clear picture of the degree of cardiac damage present in order to evaluate the patient as a whole, the only contraindications to surgery are a very recent coronary occlusion or the presence of congestive heart failure. After adequate rest and restoration of compensation, even these individuals should not be denied surgery in spite of the obvious risk. Sympathectomy will occasionally restore a chronic cardiac invalid to a state of reasonable activity and well-being. We recently operated upon a young woman of thirty who had been a cardiac invalid for several years. Almost nightly she had attacks of paroxysmal dyspnea. She was in left ventricular failure most of the time. After a period of rest and digitalization she was operated

upon in two stages. She has not had a single episode of paroxysmal dyspnea and left ventricular failure since the first stage was completed. Her return to a state of economic usefulness has been most gratifying. She had previously been declared a poor candidate for operation.

Previous cerebral vascular accidents do not contraindicate surgical treatment even in the presence of residual neurological changes. Peet[1] has shown that sympathectomy affords protection against subsequent cerebral accidents in sixty per cent of those hypertensive patients who have had this unfortunate complication. These patients should not be operated upon within six to eight weeks of such an incident.

A study of the eyegrounds is of considerable prognostic value in the hypertensive, but of little or no importance in the actual selection of patients. Retinal pathology is an indication of the extent of changes in other structures, but favorable findings may be misleading. It is possible to have advanced visceral damage in other organs and no apparent change in the retina. As a general rule, results are better and the life expectancy is greater in the presence of minimal changes. Malignant hypertension, as evidenced by papilledema and hemorrhages and exudates in the eyegrounds, is not a contraindication to surgery. There is nothing else to offer. According to Keith, Wagener, and Barker,[2] ninety-nine per cent of these patients will be dead at the end of five years of medical treatment. Peet,[1] reports a twenty-one per cent five year survival in this group treated by sympathectomy. No case of malignant hypertension should be denied this one chance in five for a life expectancy of over five years.

The best candidates for surgical treatment are in the younger age groups. We have, however, operated successfully upon a number of patients in the fifth decade. The extent of the visceral damage is far more important than the patient's age. We believe that there are occasional patients past fifty years of age who should have the benefit of operation.

Great emphasis has been placed upon the demonstration of labile blood pressure in selecting candidates for operation. A labile blood pressure is a favorable finding and usually indicates a good postoperative response. However, any surgical prognosis based principally on rest, sodium amytal tests, or anesthesia tests to demonstrate a labile blood pressure, is apt to be misleading. We have had numerous good results in patients with no evidence of a labile pressure by the various clinical tests available. On the other hand, a number of patients with clinically labile pressures have failed to live up to expectations after operation and have had poor results. If there is no fall in blood pressure in response to rest or heavy sedation, we routinely resort to the use of caudal or lumbar peridural anesthesia to produce a sympathetic denervation comparable to the contemplated sympathectomy. There is a good correlation between these tests and the immediate postoperative recumbent pressure. Either of these methods is preferable to spinal anesthesia which introduces other mechanisms influencing blood pressure fall, such as motor paralysis and decreased venous return.

The level of the patient's hospital blood pressure has definite prognostic importance. No pressure is high enough to be a direct contraindication to surgery. Smithwick[3] has stated that individuals with a diastolic blood pressure of 140 and above do not respond satisfactorily to sympathectomy and that the results are poorer in males than in females with a high diastolic pressure. We are in agreement with the latter statement. In general, patients with high fixed diastolic pressures are not good risks or good candidates for surgical benefit. Nor are they good candidates for any form of therapy. There are a sufficient number in this group who are benefitted by operation to warrant taking all risks and accepting a fairly high percentage of bad results. We can confirm the experience of Hinton and Lord[4] who found that among thirty men with hospital diastolic pressures of 140 or higher (one 196) followed over a six month to three year period, twenty had a good result, two were unimproved and eight were dead. Therefore, we feel that a high, even fixed diastolic pressure is not a definite contraindication to surgery unless the associated visceral damage is too great.

In summary, then, we have taken a broad outlook on the subject of operative indications for the essential hypertensive. A young individual, with little or no visceral damage, and a labile hypertension is the ideal candidate for surgery. The risk is practically nil and the results uniformly good. On the other hand are those individuals with obvious progressive visceral damage to one or more vital organs, often without clinical evidence of a labile pressure, and with a hopeless outlook for ever leading an active or long life. We have accepted them for surgery in spite of the obvious risk and with the knowledge that only a relative few will be greatly benefited. Our results to be published at a later date amply commend this rather heroic attitude. It has been our practice in each instance to acquaint the patient's family with the facts of risk, and prognosis.

Surgical Procedure

We are currently doing a modified two stage Smithwick type thoracolumbar sympathectomy as the procedure of choice for the treatment of hypertension. By resecting subperiosteally sections of the 11th and 12th ribs, dividing the crus of the diaphragm, and retracting the pleura medially, excellent exposure is obtained. This permits palpation and examination of the kidney and adrenal on each side in addition to removal of the sympathetic chain from T-7 to L-2, the major portion of the greater splanchnic nerve plus all of the lesser and least splanchnics into the coeliac ganglion.

There is a growing tendency to increase the extent of this radical sympathectomy. The great question that remains today is whether our present failures with the above technique would have been avoided if a more extensive resection had been done. The answer to this problem will soon be forthcoming.

A good deal has been said about the triviality of opening the pleura during the course of the operation if intratracheal anesthesia is used. With this we do not agree. The operative procedure is prolonged and made more difficult by the noisy, uneven respiration that follows the incident, and the postoperative course is more stormy despite aspiration of the chest after closure. We have practically eliminated pleural perforations by division of the diaphragm early and reflection of the cut edge with the lung and pleura. The average patient is out of bed on the first or second postoperative day and has the second stage performed in a week to ten days. The average period of hospitalization for the complete operation is about three weeks.

Results of Operation

Following the thoracolumbar denervation outlined there is an immediate loss of sweating function over the denervated area and a corresponding increase in sweating about the face and upper thorax. There is an increase in skin temperature over the same area and a corresponding blanching is often noted about the face and upper extremities giving the patient a rather pallid appearance. In the male there is usually a paralysis of ejaculatory powers rendering the patient sterile. This is such a strong possibility that the patient must be informed of this preoperatively. We have occasionally spared the lumbar ganglia on one side to avoid this complication in selected patients who desire to preserve the reproductive function. Potentia and libido are not altered.

Little has been written about the unpleasant sequelae of the operative procedure. Despite a general fall in both systolic and diastolic pressure, and an almost miraculous relief of hypertensive symptoms such as headache, chest pain, and dizziness, many of these patients are unable to resume normal activity for weeks and even months. If the blood pressure fall is pronounced, especially in the erect position, the patient feels weak, faint and dyspneic. Tachycardia is usually the last circulatory phenomenon to disappear. During the period following operation it is often necessary to resort to abdominal binders and elastic strapping of the lower extremities to compensate for marked postural hypertension.

Another annoying postoperative complaint is pain in the intercostal distribution of the operative procedure. This can be largely avoided by dividing or crushing the 11th and 12th intercostal nerves bilaterally. Occasionally more serious complications arise. The abrupt lowering of blood pressure may in rare instances precipitate complete renal shutdown and failure. We have had this experience in three cases following the first stage of operation. In each instance, however, there was definite evidence of renal damage before operation. Loss of appetite and, secondarily, loss of weight are fairly frequent complaints during the early weeks after operation. Finally, on several occasions, we have encountered psychic disturbances of a serious nature following operation. One patient was committed to a mental institution with an acute psychosis following an effective first stage procedure. Minor depressions have attended operation in several other patients.

Any patient subjected to sympathectomy for hypertension should therefore be prepared for the possibility of a prolonged period of rehabilitation following the operation. Promises of a short convalescence are to be avoided even though the majority of these individuals are restored to normal activity in four to six weeks after discharge.

Over ninety per cent of those who survive operation are benefitted clinically as evidenced by relief of symptoms. A much lower percentage have lasting blood pressure effects. Operative mortality figures are of little value if one does not define operability. In the group of cases classified as good risks, with little visceral damage, the mortality is practically nil and the results almost uniformly good. In the group of patients with advanced visceral damage, classified as poor candidates for surgery, the mortality is relatively high. Sympathectomy has proved capable of arresting and sometimes reversing the progressive deterioration of arterial hypertension in a significant percentage of patients. Improvement in electrocardio-

graphic tracings, eyegrounds, renal and cardiac function is often demonstrable. The earlier the evidences of progressive hypertensive disease are recognized and operation performed, the more likely are the results of surgical treatment to be beneficial.

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Sulfonamides and the Electrocardiogram

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FRENCH AND WELLER[1] reported histopathological changes in the myocardium of patients treated with sulfonamides. The nature and extent of the morphological changes suggested the possibility of pronounced functional effects, whether transient or permanent, during such chemotherapy. Since the side reactions to sulfonamide therapy suggest hypersensitization, the extensive clinical use of these compounds after periods during which sensitization may have been established prompted our investigation of the effects of sulfonamides on the electrocardiogram, using dogs.

The initial course of the drug had no effect upon the electrocardiogram even in animals with previously existing cardiac pathology such as prolonged conduction, heart block, and ST segment shifts. However, in 15 per cent of the animals subsequent courses of the drug produced electrocardiographic changes indicating an alteration in the physiologic state of the myocardium as indicated by prolonged conduction time, ST segment deviation, and change in direction of the T wave. These effects were transient in some but persistent in others, in each case associated with severe drug reaction.[2]

Rich[3] has emphasized the ability of the sulfonamides to act as sensitizing antigens producing hypersensitivity reactions. He feels that the morphological changes revealed at autopsy are part of a hypersensitivity reaction of the anaphylactic type, resembling foreign serum reactions. The functional effects of serum sickness and sulfonamide hypersensitivity should therefore resemble each other. This phase of the problem is now being investigated.*

The extensive use of the sulfonamides prophylactically as well as for minor infections affords an opportunity for widespread sensitization. The frequency of drug hypersensitivity reactions reported in the literature and the histologic evidence of the relationship of such reactions to cardiac and vascular lesions of varying severity emphasizes the danger of producing such changes if chemotherapy is continued in the face of a hypersensitivity reaction. The possibility of impairment of cardiac function in the gravely ill patient is obvious. Electrocardiographic studies during treatment would give early evidence of cardiac involvement and further indication for stopping the drug to prevent permanent damage, since prompt withdrawal of the inciting antigen will halt the progress of lesions. With this in mind, patients treated with sulfonamides are also being followed electrocardiographically and will be included in a future report.

As a result of our observations on cardiac function during sulfonamide therapy, we would like to endorse French and Weller's suggestion that cardiovascular function be frequently checked when patients are being given sulfonamides and that electrocardiographic studies might well parallel the course of treatment.

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Multipolar Mitoses in Tissue Cultures*

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IT IS WELL KNOWN that multipolar mitoses occur more frequently in certain neoplasms than in normal growth. Owing to the sporadic nature of the phenomenon of multipolar cell division it has been extremely difficult for investigators to evaluate its significance in relation to either normal or neoplastic growth. As Berrill (1943) succinctly points out: "There are two distinct problems: does the phenomenon precede malignancy or follow it, and how is it to be interpreted in itself."

The point of departure for the experimental work now in progress was the observation in 1943 of numerous multipolar mitoses in tissue cultures of normal embryonic chick hearts. Since the technical procedure is considered to be pertinent to the problem it will be stated briefly. Tissue cultures were prepared according to the double coverglass method of Maximow. The culture medium consisted of one part of 0.15 per cent heparined fowl plasm diluted in the ratio of 2:1 with Tyrode's saline solution, and two parts of embryonic juice diluted in a ratio of 1:1 with Tyrode's saline solution. The blood for the plasma was obtained by heart puncture from fowls. The embryonic juice was prepared from minced chick embryos of 8 and 11 days incubation. No agent, either chemical or physical, known to be carcinogenic was employed. As a routine procedure the cultures were washed in saline solution and given fresh nutrient material on the seventh day of in vitro life. Cultures were withdrawn for fixation at different times in relation to the length of life in vitro.

The microscopic examination of the tissue cultures which exhibited vigorous growth revealed an abundance of dividing cells. Not all of the dividing cells were normal, as in numerous instances rounded-up cells with pyknotic masses of chromatin or chromosomes were present. The numbers of multipolar mitotic figures in individual cultures equaled or exceeded the numbers which have been reported for cultures of malignant tissues (Goldschmidt and Fischer, 1929; von Mollendorf, 1940). The variability of the multipolar configurations in the cells was as great as that found in certain neoplasms (Lewis and Lewis, 1932).

Although multipolar mitoses have now been produced in eighteen or more series of cultures, the writer cannot, as yet, name any specific extrinsic factor as being responsible for their appearance. An analysis of the experimental procedure for factors underlying the production of these aberrant mitoses has been presented (Stilwell, 1943, 1944). At that time attention was called to possible contributory factors as follows: (1) photodynamic action of some constituent of the nutrient medium; (2) a constituent or property peculiar to the plasma of an individual fowl; (3) temperature incubation variation during the period of incubation (37½°C.-42+°C.); a chemical fraction of the embryonic juice (Claude, 1938). Up to the present time only the first two of the factors mentioned have been eliminated satisfactorily.

It is noteworthy that Firor and Gey (1945) were led by the sudden appearance of multipolar mitoses in tissue cultures of rat areolar tissue to suspect an alteration of normal cells to malignant cells. Subsequent inoculation experiments seemed to justify their suspicions. They were, however, unable to demonstrate a single causative agent.

It is hoped that with a method capable of producing significant numbers of multipolar division figures further work will lead to tenable deductions regarding the relation of multipolarity to malignancy.

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Penicillin Therapy in Bacterial Asthma*

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THE CHEMOTHERAPEUTIC approach to the treatment of bacterial asthma was introduced by Appelbaum in the use of inhalation of nebulized solutions of sodium sulfathiazole[1]. Schoenwald and Deppe[2] were among the first to report on the use of penicillin in this condition. Though their series of cases was small, the results were encouraging. Hampton et al[3] reported some improvement in four of nine cases of chronic asthma treated with penicillin. Barach and others[4] reported striking improvement in some cases of bronchial asthma treated with aerosol penicillin. Vermilye[5] reported over two hundred cases of respiratory tract disease treated with aerosol penicillin. Many of his casès of intrinsic bronchial asthma were remarkably improved. Engelsher[6], however, found only questionable improvement in 15 per cent of 76 cases studied. He reported that many of his cases appeared to become worse on using the nebulized penicillin. In a preliminary study Baumann and others[7] reported gratifying results with the use of oral penicillin in the treatment of bacterial[8,9] asthma.

In the general use of penicillin, nearly every possible route of administration has been utilized. Each route has its own advantages and disadvantages. Most methods of administration give satisfactory blood levels of the drug if enough of the agent is administered. In the present study the oral route was chosen. It has the advantage of ease of administration, especially in children. That satisfactory blood levels can be maintained by oral penicillin, has been demonstrated by many investigators.[10,11,12,13] Buffering agents given with the drug protect it from destruction by gastric acidity and thus enhance the absorption. There appears to be no marked difference in the efficacy of buffered agents commonly used for this purpose at the present time. In a study previously reported and still being carried on by the authors of this paper, penicillin tablets buffered with aluminum dihydroxyamino acetate* have been used. This has been shown to be one of the more efficient buffers and in our experiments was found to be more powerful and to give less nausea than other preparations tried. Blood levels were obtained in part of our subjects two hours after the first dose and one hour before the eighth dose of 60,000 units. The levels varied from 0.03 to 0.1 units cc. Such levels are considered adequate for the treatment of most susceptible organisms.

A study of the bacterial flora was carried out by taking cultures from the nose just before treatment and from three to four weeks after treatment. The predominating organisms before treatment were Staphylococcus aureus (coagulase positive and negative), Staphylococcus albus (coagulase positive and negative), pneumococci, Hemophilus influenzae, non-hemolytic streptococci, and Streptococcus viridans.

The bacteriologic picture, before and after treatment, revealed two definite facts. All adults who had had pneumococci present before treatment had none after treatment. A very high percentage of staphylococci remained present in the cultures after treatment, but 66 per cent of these were coagulase negative. Similar results have been obtained in the second series, with the added fact that streptococci, present before treatment, were not present after treatment.

No definite relationship between the control of the asthma and the bacteriologic picture has yet been demonstrated.

To date 60 children and 15 adults have been treated with oral penicillin. The first 36 cases already reported were all patients that had been treated previously by other recognized therapy under the supervision of the authors conducting this study. All patients had responded to a greater or lesser degree, but none had been entirely free from asthma for more than a few weeks at a time.

Many of the later cases were new patients to

*This investigation is being made with the assistance of a grant from the Committee on Therapeutic Research, Council on Pharmacy and Chemistry, American Medical Association.

*Glycillin tablets used in this study were supplied by Meta Cine Co., Chattanooga, Tenn. The buffer in this tablet is basic aluminum aminoacetate.

the authors, but all had severe asthma and had been treated for a considerable length of time by other physicians.

Rhinopharyngeal examinations showed findings typical of allergic rhinitis. The mucous membranes were a pale grayish pink and were swollen and edematous. This edema was especially marked over the lower part of the middle turbinates, in the middle meati, over the inferior turbinates, and over the anterior part of the septum.

The edema varied from severe in over half the cases to slight in a few of the cases, but was present in all. About one-third of the cases had sinusitis; others had frequent attacks of rhinopharyngitis some with badly infected lymph follicles. A few had markedly infected tonsils and adenoids.

X-ray examinations revealed evidence of pathology of varying degree in sinuses and increased markings in the chest compatible with the diagnosis of sino- or tracheo-bronchitis. Only cases which on culture from the respiratory tract showed organisms that were sensitive to penicillin have been included in our study.

Treatment was carried out as follows:

1. Patients were all ambulatory, since there were no complicating conditions indicating bed rest.

2. Unless there was an associated food allergy, elimination of any specific food was not considered necessary. A well balanced diet, high in vitamin B and C was given. In adults, to obtain this without too high a caloric intake, a vitamin B Complex, containing at least 10 mg. of thiamin hydrochloride, 5 mg. of riboflavin, and 50 mg. of nicotinic acid amide, was given daily; 100 to 150 mg. of vitamin C (ascorbic acid) was also added to the diet.

3. Fluids were not given in excess. An average of 1500 to 2500 cc. (depending on age of patient) daily was thought to be adequate, unless there were complications.

4. The dosage of oral penicillin has been changed since the first series of cases was reported. All but three of the patients in the series now under treatment are children. The change in dosage was based on this fact and on the experience of the authors in their trial cases. Recently others[14,15] have reported similar satisfactory results with smaller dosage in children.

Satisfactory blood levels and equally satisfactory clinical results have been obtained by increasing the time interval between doses and by varying the number of units given in each dose according to the age of the patients and the duration of the asthma. All of the more recent patients received penicillin every 4 hours day and night for 5 days. The children averaged 50,000 units of penicillin per dose and the adults 100,000 units per dose.

5. Oral penicillin was and should be given about 1 hour before meals or two hours after meals, i.e., on an empty stomach.

6. Any other indicated therapy such as pollen desensitization was continued in conjunction with the oral penicillin.

Comment

While taking oral penicillin the patients were carefully observed for sensitivity. This is most commonly demonstrated as a cutaneous eruption but may also be manifested as asthma. Only one of our cases showed a sensitivity to oral penicillin (glycillin). This patient was a sixteen year old boy who had had asthma for ten years, and who had not responded to the usual forms of treatment. After receiving oral penicillin (glycillin) 480,000 units, he developed such severe asthma that the treatment was immediately discontinued. It is interesting to note that since this attack (two years ago) he has had absolutely no asthma.

During the course of treatment one child (four years old) who had no demonstrable vitamin B deficiency, developed marked lesions of tongue, lips, and mucous membranes of the mouth and throat, characteristic of thiamin and nicotinic acid deficiency. This child responded promptly to moderately large doses of complete B complex.

The only unpleasant reaction noted in a very few of the cases receiving glycillin was anorexia. This was relieved promptly when the penicillin was discontinued. A few of the patients reported that the stools were more frequent and voluminous.

In a very few cases a second course of oral penicillin was necessary before the patient's symptoms were relieved. In one case three courses were given. This patient developed a severe respiratory infection three days after each course. Asthma followed the infection after the first 2 courses of penicillin but did not follow the 3rd course, and the child has been free of asthma for the past 6 months.

We have noted that the large majority of our patients have had frequent respiratory infections during the past winter, but only a few of them had an associated asthma.

More time must elapse before the efficacy of oral penicillin can be truly evaluated. However, results to date indicate that it may become a valuable adjunct in the treatment of so-called bacterial asthma. Apparently proper selection of cases and adequate and correctly administered

dosage of oral penicillin are of paramount importance if good results are to be obtained.

Summary

Following a brief discussion of the use of penicillin in intrinsic or bacterial asthma, a description of the type of case selected for oral penicillin therapy is given.

A plan of treatment has been outlined in detail.

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Bronchoscopy in the Child with Chronic Cough

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PERSISTENT COUGH in a child is one of the most troublesome problems which confronts the practitioner. Any disease or irritation of the entire upper and lower respiratory tract may cause this symptom and must be considered in reaching a diagnosis.

The most common cause of persistent cough is local irritation in the pharynx. The presence here of postnasal secretion will immediately suggest that the upper respiratory tract is the cause of the cough. Then a search for the source of discharge may disclose infected sinuses, allergic rhinitis, or diseased adenoids and these can be appropriately treated. Not to be overlooked in this local examination is the hypertrophic, lymphoid tissue on the posterior pharyngeal wall. This condition, fairly common in the tonsillectomized patient, will cause paroxysms of unproductive, racking cough.

The cough associated with the acute infectious diseases of childhood is familiar to all practitioners and is not within the scope of this paper.

It is in the coughing child in whom the above conditions have been eliminated that we suggest the advisability of bronchoscopy for diagnosis and treatment. This procedure can be safely carried out by the experienced operator even in infants, without anesthesia and with a minimum of discomfort and reaction. A diagnostic bronchoscopy seldom requires more than three or four minutes, and the information gained may be invaluable.

Bronchoscopic examination for suspected foreign body or for atelectasis is so obviously indicated that this phase will not be considered here. We wish rather to call attention to less familiar indications. One of these is the small patient in whom tuberculosis is suspected from x-ray or physical findings but in whom positive sputum can not be obtained. A child usually swallows any sputum he may cough up. While this material may be obtained from gastric washings, it is so dilute that the characteristic organisms may not be found. Again, gastric washings contain material not only from lungs, but also from sinuses, tonsils, and adenoids, while by bronchoscopy we obtain secretion directly from the bronchus, uncontaminated by other sources.

Case 1. A seven year old white female child was hospitalized because of fever, weight loss, and anorexia. Chest x-ray showed a radiolucent area in the lower part of the right upper lobe, suggestive of tuberculosis, although abscess could not be definitely excluded. Three gastric washings were negative for tubercle bacilli. Bronchoscopy revealed slight congestion of the tracheobronchial membrane, some swelling of the membrane about the orifice of the right upper lobe, and only a few drops of secretion. Tubercle bacilli were found in this secretion, so that a definite diagnosis was reached and appropriate treatment begun.

Sometimes cough is the only indication for bronchoscopy. The chest x-ray may be normal, the physical findings practically nil, but if the cough persists, bronchoscopy should be considered. Chronic bronchitis, with thickened congested membrane, may not be apparent on x-ray or physical examination, but will be obvious on direct examination of the bronchi. We have many such patients whose coughing has yielded to judicious use of an autogenous vaccine made from bronchoscopically obtained secretions.

Case 2. A white male child, aged four years, who had coughed for three months. Nose and throat treatment and cough mixtures had been ineffective. Chest x-ray was essentially negative. Bronchoscopy showed thickened, congested membrane, with a minimal amount of secretion. A vaccine was prepared, as is our custom, but the child failed to report for its administration. On follow-up, the mother reported that the cough had completely stopped after the bronchoscopic treatment. While we can not explain this, it has happened too often to be purely coincidental.

Another indication for bronchoscopy is the presence in the bronchi of secretion which the patient can not cough up. Mechanical removal of this material by suction through the bronchoscope will sometimes result in the ventilation and drainage of the lung parenchyma which permits restoration of normal function. One or two bronchoscopic aspirations, possibly supplemented by autogenous vaccine, will sometimes give amazing results. Some observers have felt that early treatment in this type of patient has prevented bronchiectasis.

Case 3. Three year old male child, who according to the history had been coughing since birth. His appetite was poor, and he vomited frequently. An adenotonsillectomy at the age of two years had caused no lessening of the symptoms. Chest x-ray was negative. Nose and throat were in good condition with no congestion or discharge. At bronchoscopy a large amount of purulent secretion was removed from both lower lobe bronchi. The cough immediately became less, and bronchoscopy two weeks later showed congested membranes but practically no secretion. Subsequent progress was excellent.

Allergy may be the underlying factor in some of these patients with chronic cough. Certainly, we have found that, in the frankly allergic child, congestion and thickening of the bronchial mucous membranes is a very frequent finding. In one large allergy clinic in a children's hospital, autogenous vaccine prepared from bronchoscopically removed secretion has proved such an adjunct to other forms of therapy that its use is practically routine; this aspect has been thoroughly covered in other papers.* Certainly it has appeared to us that in children particularly we find allergic reactions to the patient's own bacteria, and that careful desensitization with autogenous vaccine gives excellent results.

Conclusions

Bronchoscopy should be considered in any chronic cough of childhood which does not yield to other treatment. In experienced hands, it is a safe, brief, and fairly painless procedure which aids in diagnosis and treatment.

*Emily L. Van Loon, M.D., and Sidney Diamond, M.D.: Bronchoscopic Aspects of Asthma in Children. 63: 217-224, 1942.

Roentgen Therapy to the Pituitary Gland in Certain Benign Conditions of the Breast*

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ROENTGEN IRRADIATION delivered in small amounts over the pituitary gland was inaugurated and has been used by us in the treatment of mastodynia and cystic disease of the breast over a six year period. Results in the 200 cases treated have been excellent and would seem to warrant the inclusion of this mode of therapy in the physician's armamentarium.

Mastodynia is not a disease entity but a symptom complex characterized by pain in the breast and/or the pectoral folds, axillae, and arms. The discomfort, most marked in the premenstrual period, is usually seen in the young adult. Frequently the syndrome is accompanied by menstrual disorders which may include amenorrhea, oligomenorrhea, or a prolonged or irregular intermenstrual period. The young woman with mastodynia is often sterile or has borne no more than one child. Frequently she is frigid. Hirsutism and acne may be present. Occasionally, a serous discharge from the nipples is observed.

Examination of the breasts shows them to be one of two types: (1) small and atrophic, or (2) well developed and "congested." (Geshickter). The former are usually accompanied by hirsutism, acne, and oligomenorrhea. On palpation, the well developed type is tender, vaguely nodular, swollen, and indurated. No definite "lumps" can be made out. These breasts are "congested."

Mammary roentgenograms in these patients show no evidence of tumor. The breast structure usually appears coarse but the findings depend somewhat on the phase of the menstrual cycle.

Cystic disease of the breast includes (1) the solitary or blue dome cyst of Bloodgood, (2) multiple cysts or chronic cystic mastitis, and (3) adenosis or Schimmelbusch's disease. (Geshickter). Cystic disease occurs most often in the older woman who is approaching the menopause. She is usually nulliparous or of low parity. The menstrual history is often normal.

Physical examination shows the breasts to be tender (mastodynia) with, occasionally, a discharge from the nipple. Sometimes, only the upper outer quadrant is involved. The cyst (or cysts) is freely movable and translucent. Aspiration yields a milky or serous fluid.

Mammary roentgenograms show the involved area to be sharply circumscribed and the breast structure appears to be displaced rather than infiltrated by it. The cyst is of diminished, rather than increased density. Often, the involvement is multiple, i.e., there are many cysts rather than one.

Both mastodynia and cystic disease seem to be associated with an underlying endocrine dyscrasia. The dyscrasia in these conditions apparently consists of a relative or actual increase in estrin.

The periods in the life of the female during which there is an increase in the estrogen content include: (1) from birth until the fourth or sixth day of life, (2) adolescent period, (3) pregnancy, and (4) the pre-menopausal period (or the polyfolliculin phase of the menopause). The periods in the life of the male at which the estrogen content is increased include. (1) from birth to fourth or sixth day post-natal and (2) puberty.

In both sexes, neonatal hypertrophy of the

*This subject has been presented previously before the Woman's Medical College Hospital Staff at its annual research meeting in April, 1941, before the Post Graduate Seminar of the American College of Physicians, November 15, 1943, and at the Post Graduate Assembly given under the auspices of the American College of Radiology, February 6, 1946.

breasts coincides with the first period of estrogen increase as outlined. The second period of estrogen rise parallels the age of appearance of physiologic hypertrophy, mastodynia, and fibroadenoma in the female and physiologic gynecomastia in the male.

The premenopausal rise in estrin occurs at the time cystic disease of the breast is most prevalent.

Although there is, as yet, no absolute experimental proof that hyperestrinism is the sole etiologic agent in the production of mastodynia and cystic disease, the circumstantial evidence would certainly seem to favor such a causation.

It is interesting to speculate just why small doses of roentgen therapy delivered over the pituitary gland should cause relief of pain in those breasts which are, presumably, over-stimulated by estrogen (i.e., in cases of mastodynia and cystic disease). It is reasonable to assume that either the proliferation of estrogen is inhibited in some fashion or that the elaboration of its antagonist, androgen, is accelerated by this treatment.

If we accept the latter premise we must assume that the small doses of irradiation cause an increased vascularity in the pituitary gland and that increased excretion of the anterior pituitary hormone results. Included in the secretion of the anterior pituitary gland is an adrenal-stimulating factor which controls the output of the adrenal's 17-ketosteroids (androgen). The 17 ketosteroids, 95 per cent of which in the female are secreted by the suprarenal cortex, are antagonistic to the action of estrin. Thus, the 17 ketosteroids of the adrenals are stimulated so that they can the better exert their inhibiting effect on the hyperestrinism.

If the other premise is adhered to, a depressing effect by the roentgen rays must be postulated. Thus, it can be assumed that the hyperestrinism is due to an overactive pituitary gland with overelaboration of the gonadotropic factor. The decreased activity of the pituitary gland as a result of the treatment causes lessened stimulation of the ovarian follicles and diminished production of estrin with consequent improvement in the breast physiology. This hypothesis is made more tenable by the fact that the basophilic cells of the anterior pituitary gland are quite radiosensitive. It is these cells which secrete the follicle stimulating hormone (F. S. H.) which, in turn, produces estrogen. It seems probable that irradiation, even in small amounts, reduces the overactivity of the basophilic cells with resulting control of the hyperestrinism.

Technique of Treatment. Roentgen therapy over the pituitary gland is administered every two weeks through alternate sides, two to six such treatments being given. Seventy roentgen units are delivered at each visit. The factors employed are: 200 kv; 20 milliamperes; 0.5 mm. copper, and 1.0 mm. aluminum filtration; 60 cm. skin-target distance. The portal of entry at the temporal region measures about 6.0 cm. in diameter.

Irradiation of the pituitary gland in cystic disease, as well as relieving the accompanying mastodynia, seems to prevent recurrence of the cysts if they are first aspirated or excised. Therefore, it is advisable to refer these cases for aspiration (or enucleation and biopsy if there is the faintest suspicion of malignancy) before instituting treatment over the pituitary gland. In the cases of cystic disease studied, it has been our custom to give small doses of roentgen therapy over the breast as well. One hundred and fifty roentgen units are administered alternating through two fields (one medial and one lateral) for two to six treatments. The factors used are the same as for the pituitary treatments. The breast and the pituitary are both treated at the same visit.

As has already been indicated, mastodynia and cystic disease are accompanied by the associated symptoms of acne, hirsutism, sterility and/or menstrual disturbances. Not infrequently, roentgen therapy over the pituitary has resulted in the relief of these associated conditions.

The question of harmful effects or untoward sequelae from the use of roentgen therapy over the pituitary may be raised. We have observed 200 cases during the past six years and have noted none. Spontaneous regressions occur in mastodynia after a year or two. This fact must be taken into consideration in the evaluation of therapy. We have observed a very close correlation between pituitary irradiation and relief of symptoms. Such relief is not coincidental or spontaneous. Occasionally, the mastodynia has recurred in a one or two year period. Two or three additional treatments have been effective in relieving these recurrences.

As has already been noted, foci of infection often cause pain about the breast (intercostal neuralgia, neuritis, radiculitis, myositis, etc.) which simulates mastodynia. Therefore, foci of infection in the teeth, sinuses, tonsils, and elsewhere should be excluded. True mastodynia for which we recommend pituitary irradiation is due to an endocrine dyscrasia and is not an inflammatory process.

Irradiation of the pituitary gland has already been found to be of value in the treatment of certain manifestations of an underlying endocrine dyscrasia. These include, among others, selected

cases of (1) amenorrhea, (2) oligomenorrhea, (3) menorrhagia, (4) sterility, (5) basophilism, and (6) gigantism. The purpose of this presentation is to suggest that this particular form of treatment is also of value in mastodynia and cystic disease.

Summary and Conclusions

(1) Mastodynia and cystic disease have been treated by administration of small infrequent doses of roentgen therapy to the pituitary gland (70 r. every two weeks for two to six doses).

(2) Relief of pain has resulted promptly in practically every case so treated. The recurrence of cysts following excision or aspiration in some cases of cystic disease seems to have been averted by this mode of therapy. (In some instances there has been relief of associated symptoms, viz., acne, hirsutism, sterility, and/or menstrual abnormalities.)

(3) It is believed that there is an underlying endocrine dyscrasia in these particular mammary dysplasias. This dyscrasia takes the form of an absolute or relative hyperestrinism.

(4) It is postulated that roentgen therapy has its effect by depressing the basophilic cells of the pituitary gland. These cells have to do with the elaboration of the follicle stimulating hormone (F. S. H.). As a consequence, the stimulation of the ovarian follicles is reduced and a decrease in the output of estrin results.

CASE REPORTS

LEAD POISONING IN CHILDHOOD

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R., A THREE YEAR OLD, colored, male child was admitted on June 16, 1947, with a chief complaint of "upset stomach" for four weeks. The child had been well until one month before, when he developed constipation, anorexia, vomiting, cough, drowsiness, and irritability. He was unable to hold objects in his hands and had a tremor that would not allow him to feed himself. Since that time, his symptoms continued, except for the cough, which was relieved by cough syrup in one week. For one week, he had vomited everything taken by mouth, but after that, he vomited only once or twice a day; this vomiting was unrelated to any known factor. For three weeks before admission, he had not slept well during the night but did sleep during the day. For five days before admission, he was unable to stand due to generalized tremors, and he began having abdominal pain. He lost six pounds in one month. His past medical history was essentially negative except for "sniffles" at the age of two weeks, a chest x-ray at three months with possible primary tuberculosis, and a habit of eating everything he gets his hands on. (In the past six months, he had eaten all the paint off the window sills in his home.) Family history was negative except that the maternal grandfather died of diabetes mellitus.

Physical Examination: The child was a well developed, fairly well nourished, colored male, who was very irritable. He had marked coarse tremors of head and extremities, and he walked unsteadily on a wide base. Temperature, pulse, and respirations were normal. Examination of the head was negative except for pallor of mucous membranes and a greyish blue line along the gum margins. Neck, chest, abdomen, and extremities were essentially negative. Neurological examination revealed ataxia, asynergia, severe intention tremor, and hyperactive tendon reflexes. Eye grounds showed retinal arteriospasm Grade 1. The impression on admission was chronic lead poisoning with encephalitis.

Significant Laboratory Data:

Hematology	On admission	1 month after admission
Hemoglobin	7.5 Gm.	11.5 Gm.
Red blood count	4,870,000	4,920,000
Stained red blood cells	4 coarsely (basophilic) stippled cells per H.P.F.	Occasional coarsely (basophilic) stippled cells
White blood count	9,800	8,520
Differential		
Neutrophiles	48%	42%
Lymphocytes	46%	43%
Monocytes	6%	2%
Eosinophiles	6%	13%
Urinalysis	Negative	Negative

X-rays of long bones showed an increased density at the ends of the shafts characteristic of plumbism. This was unchanged at the end of

one month. Blood lead level, 6/26/47, was 0.12 mg.% (normal 0-0.05 mg.)

Therapy. The child was given general supportive therapy and sedation with elixir of allurate. Sodium citrate gr. XV T.I.D. was begun three mg.% normal 0-0.05 mg.)

Clinical Course. Ten days after specific therapy had begun, his tremors were markedly decreased and vomiting and constipation ceased. One week after admission he had one tarry stool. One month after admission he showed a weight gain of five pounds, marked improvement in appetite, and normal bowel habits. The irritability had disappeared, and slight tremors were seen only under emotional stress. He was alert, cheerful, and seemed to be normal mentally.

Summary. Report of a case of chronic lead poisoning with encephalitis and colitis in a three year old child. Significant findings included: Hypochromic anemia with coarse basophilic stippling of red blood cells and increased density at the ends of the shafts of long bones.

Clinically, he showed constipation, anorexia, vomiting, abdominal pain, tarry stool, lead line, drowsiness, irritability, tremors, retinal arteriospasm, history of eating paint.

Marked improvement resulted after the administration of sodium citrate for ten days.

RECTOVAGINAL FISTULA DUE TO TUBERCULOSIS

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A 46 YEAR OLD WHITE woman was admitted to the Hospital of the Woman's Medical College with the chief complaint of annoying vaginal discharge. She gave the history of an attack of "grippe" about 18 months prior to admission. Following this she developed an "abscess in the vagina." She treated this at home with hot compresses and it ruptured spontaneously. Purulent drainage, which was also blood tinged on occasion, had persisted until admission to the hospital. She stated that she had been afraid that the abscess would enlarge again and that she had squeezed the area frequently to maintain drainage. She insisted that she felt well, had lost no weight, had had no pain. She sought medical advice only because the drainage kept her from working.

Her past medical history was non-contributory. Her menses were normal and regular until 6 months prior to admission when she noted diminishing amount of flow. She had missed 2 periods in this 6 months' time. She was married at the age of 20 years, separated after two years, and had no pregnancies. She denies coitus since the separation. No history of contact with a tuberculous patient could be elicited.

In the few months prior to admission, she tended to have loose stools, 2 to 3 times daily, unless she watched her diet closely. She stated that if she had more than one movement per day, there was mucus and blood in her stool and the vaginal discharge became worse.

On general physical examination, her temperature, pulse, and respirations were normal. Auscultation and percussion of the chest showed no abnormality. No lymphadenopathy was found.

On pelvic examination, there was induration in the region of the right Bartholin's gland. An ulcerated area, roughly triangular in shape, was seen to extend from the introitus, mucocutaneous junction, up the posterior vaginal wall approximately 3 cm. There was only slight induration in the ulcerated area, but the edges of the ulcer were undermined. The discharge was purulent and blood-stained. The base of the ulcer was irregular and appeared to be granulating. Rectal examination showed induration of the rectovaginal septum for a distance of about 5 cm. above the vaginal ulceration. The cervix was clean; the fundus uteri was normal in size and shape, in mid-position, and freely movable. The adnexa could be felt and were not abnormal or tender.

Proctoscopic and sigmoidoscopic examinations were done. Two small punched out ulcers in the rectal mucosa were seen to the left and anteriorly, about 2 cm. above the anal margin. The mucous membrane appeared pale but no other ulcerated areas were found up to 20 cm. from the anal orifice.

Laboratory findings: A voided urine specimen was negative to routine examination. The hemoglobin was 13.5 gms., white blood cells 6,750 per cu. mm., hematocrit 44, blood sedimentation rate 25 mm. in an hour. A routine culture of the vaginal ulcer showed Escherichia coli; Streptococcus faecalis; Staphylococcus albus-coagulase negative; diphtheroids. Blood serology was negative. A Frei test was done and gave a negative reaction. A patch test for tuberculosis was positive.

Under sodium pentothal anesthesia, a biopsy of the vaginal ulcer was taken. A solution of methylene blue injected into the rectum demonstrated the fistulous tract between rectum and vagina.

Microscopic examination of the biopsied material is reported as follows: "The margin of the ulcer is covered by thickened stratified squamous epithelium beneath which are numerous plasma cells. The base of the ulcer is composed of vascular granulation tissue heavily infiltrated with leukocytes and plasma cells. Scattered through this tissue are nodules of epithelioid cells and Langhans giant cells. These contain foci of caseous necrosis. Large areas of similar caseation are seen separately. The tubercles also tend to undermine the edge of the ulcer." "A Kinyoun stain for acid fast bacilli shows many typical tubercle bacilli scattered through the tissue." Diagnosis: tuberculosis of the vaginal mucosa.

X-ray films of the chest showed "considerable infiltration in the right supraclavicular region, in the left mid-lung field, and at the right base. There is also mottled calcified infiltration in the left apex. The appearance suggests a reinfection type of tuberculosis."

Repeated smears of sputum were examined for tubercle bacilli but none were found. However, positive cultures for acid-fast bacilli were obtained from both sputum and urine.

In view of the wide dissemination of the infection in this individual, it was felt that any attempt at repair of the fistula would be dangerous and likely to be unsuccessful. Sanatorium care was strongly advised but was refused by the patient. She utterly refused to appreciate the seriousness of her condition. She has been reported to the City Chest Clinic in her neighborhood and follow-up has been requested. When last heard from, she was living at home and was under the care of a private physician.

Two interesting aspects of this case should be given brief discussion: 1. The differential diagnosis when this patient entered the hospital was the subject of considerable discussion among the staff members who examined her. Tuberculosis was felt to be the most likely diagnosis and was so proven by biopsy. There was no history of trauma such as a stab wound. However, the patient by her own manipulations definitely increased local tissue destruction. Malignancy was felt to be unlikely from the gross examination but could only be definitely eliminated by biopsy. Lymphogranuloma venereum and granuloma inguinale were briefly considered and eliminated. No evidence of syphilis was found.

2. The determination of the site of the original tuberculous lesion in this patient offers the opportunity for considerable speculation. Authorities in the field state that primary tuberculosis of the vagina can only be diagnosed in individuals with no other acid-fast lesion in the body. Experimentally, infection has been produced in the normally resistant vaginal squamous epithelium in guinea pigs after either trauma or previous sensitization to the tubercle bacillus. In the human, a hematogenous spread is usually postulated in a rare lesion of this type. In this individual, we were not able to demonstrate either tubal or uterine tuberculosis with possibility of drainage downward and infection of the vagina at a traumatized area. However, since no operation or autopsy has yet been done, one could not be entirely certain that the upper genital tract is free from involvement. With acid-fast bacilli recovered from both urine and sputum, the possibility of contamination of the introitus from urinary tract or rectum becomes obvious. We do not know if the primary abscess was tuberculous, we do know that the patient had poor general hygiene and squeezed the draining area repeatedly. She may well have implanted the acid-fast bacilli on an area prepared by pyogenic bacteria.

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Uterus Couvelaire

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UTEROPLACENTAL APOPLEXY, or uterus Couvelaire as it is more popularly known, and first described by Couvelaire, appears to us to be such a rare phenomenon, that these two cases are worth reporting. In obstetrical textbooks, it is classified as a severe degree of premature separation of the placenta, or an end stage of abruptio placenta, where the hemorrhage has been so great the blood infiltrates the layers of the myometrium and even extends into the broad ligaments.

Stander and Adair give rather a full description of uterus Couvelaire, while DeLee gives only brief mention of the condition. Stander reports one case of uterus Couvelaire in every 19.1 cases of premature separation of the placenta. In 1943, Stanley Hall reported a case of uterine apoplexy following an elective second cesarean section. In Hall's case there was no evidence of toxemia or abruptio placenta. A cesarean was done because the patient had a weak scar from a previous section. The uterus was sutured and contracted well at the time of the second operation. After the abdomen was closed, the patient went into shock, and because of the suspicion of internal hemorrhage, the abdomen was re-opened. Uterus Couvelaire was found and a supravaginal hysterectomy was performed with consequent recovery.

In Hall's article, he mentions that Portes collected 73 cases in 1923. In 1921 Wilson reported 69 cases, 46 of which were observed at laparotomy or autopsy; in 55 of these cases, toxemia was mentioned as a possible causative factor; 7 cases did not have toxemia. There were 38 maternal deaths in the 69 cases, or 55 per cent maternal mortality; 5 babies survived.

Stander gives the best description of Uterus Couvelaire:

> Grossly, the uterus and occasionally the tubes and ovaries are purplish, bluish, coppery color, and resemble an ovarian cyst twisted on a pedicle. The process may involve one or both broad ligaments, and tubes and ovaries may be gorged with blood. The uterus remains soft and flabby and fails to contract and retract. Microscopically, it shows extensive intramuscular hemorrhage with muscle fibers completely dissociated; hemorrhagic changes in the decidua basalis explain the inauguration of the process of separation. Hemorrhagic discoloration usually is greatest at the placental site and muscular dissociation is greatest in the outer and inner layers of the uterine wall.

As most authorities consider this pathological entity to be a severe degree of abruptio placenta, we go back to the causes of premature separation of the placenta for etiological factors. These are generally given as: (1) toxemia of pregnancy and nephritis; (2) diseases of the endometrium and ovum; (3) trauma.

Case Reports

E. McF., white, age 31. Gr. iv, Para iii, was admitted to the Woman's Hospital, September 5, 1945. She had registered in Prenatal Clinic, May 11, 1945, during the fifth month of pregnancy. She had no previous illnesses or operations, and her three previous deliveries were normal. Pregnancy was uneventful. Her last menstrual period was December 24, 1944; due date, October 1, 1945. Her blood pressure remained low, 108/60; total weight gain, 15 pounds. Urinalysis showed a faint trace of albumin on two occasions; hemoglobin was 68 per cent; red blood cell count, 3,250,000; Wassermann, negative. The patient's last visit to Clinic was made on July 31, 1945. On September 5, 1945, at 4:55 p.m., she was admitted to the hospital with profuse vaginal bleeding and passed several clots of blood. She had slight cramp-like pains beginning at 3 p.m. The membranes were intact. Blood pressure was 118/70; pulse rate, 100 per minute. The uterus was tense and of board-like consistency with no relaxation; no fetal heart or fetal movements could be obtained. There was no cervical dilatation and no engagement of the presenting part.

Intravenous glucose 5 per cent in normal saline was begun and the patient typed. The diagnosis of abruptio placenta was made and a classical cesarean section was performed at 6:38 p.m.

Findings at operation. Uterus tense and very blue; large hematoma of left broad ligament; uterine wall in that area very dark with old blood; tubes and ovaries appeared normal; free blood present in peritoneal cavity.

Procedure. The uterus was opened with low classical incision, placenta was on anterior wall with area of separation and dark blood clot present.

Baby was in L. O. A. position. Stillborn baby and placenta delivered. Uterine wall was sutured. Inspection revealed rupture of uterine wall posteriorly in 5 separate areas. These were confined to outer muscle layer. Supravaginal hysterectomy with left salpingo-oophorectomy was performed. Patient was given blood transfusion at 7:24 p.m. and 7:45 p.m. Blood pressure dropped to 0 during operation.

Pathological report. Gross: A full term pregnant uterus showing irregular hypertrophy. On posterior surface are 5 linear ruptures by rhexis, varying from 2 to ¼ inches, and extending through serosa into myometrium. Myometrium in this area is thinner than in other portions of the uterus. There is an extensive hemorrhage in the broad ligament. Placenta is small and ragged.

Section showed placenta abruptio, myomatous uterus with pregnancy at term, diffuse cystic degeneration in myomatous areas showing interstitial hemorrhage due to rhexis of sinusoids. Ovary shows some hemorrhage. Fallopian tube is congested.

The patient was discharged on 12th day postoperative, in good condition.

B. R., white, age 37, Gr. iv, Para iii, was admitted to the Woman's Hospital, October 16, 1946; discharged October 29, 1946.

This patient had been treated previously for pyelonephritis and gave a history of having a placenta abruptio during labor with her second pregnancy. She was hospitalized from August 26 to 28 during the present pregnancy for observation. Intravenous pyelogram showed a right hydronephrosis, which was treated by repeated dilatation and catheterization of the right ureter. Her last menstrual period was February 17, 1946; due date November 24, 1946.

The patient was admitted to the hospital October 16, 1946, because of severe pain in both lower quadrants. This pain had been intermittent for the past five days and was relieved by codeine, aspirin, and syntropan. There were no urinary symptoms at this time. The uterus was 3 finger breadths above the umbilicus with normal tonus, but irritable; there was tenderness in both lower quadrants. Blood pressure on admission was 110/80. On October 17, 4 a.m., the patient passed about 10 cc. of bright red blood, and the uterus seemed tense at intervals. At 8 a.m. there was no further bleeding, but the uterus appeared to be in a more tonic state of constant contraction. Fetal heart was good, 140 per minute; patient's blood pressure was 130/90; and pulse 82.

Because of increasing tenseness of the uterus and slight bleeding a diagnosis of abruptio placenta was made. As there was no cervical dilatation, a classical cesarean operation was performed, and a living male, one month premature, was delivered. The birth weight was 5 lbs. 9 oz.

At operation a moderate amount of free blood was found in the peritoneal cavity; the uterus was partially infiltrated with blood and two small areas on the posterior surface were torn through the serosa. These areas were repaired with two interrupted sutures and the uterus was not removed.

The patient's postoperative course was uneventful; temperature rise was not over 100° and she was discharged in good condition on the 12th day postoperative.

As is seen in one of our cases not all cases of uterus Couvelaire are associated with toxemia of pregnancy. In one case we have no real evidence of toxemia, although it cannot be entirely ruled out as the patient was not seen for one month prior to admission to the hospital with bleeding. The pathological report of areas of myomatous infiltration in the first case is interesting, and we would like to add this as an additional etiological factor to be considered.

McKelvey in 1939 described vascular lesions found in the decidua basalis of normal placentas. He described lesions in the arterioles of the upper part of the decidua basalis where there is excessive deposit of fibrinoid material in the wall and aneurysmal dilatation. These changes were not associated with toxemia or placental infarcts. He believes that every pregnant woman, therefore, is a potential candidate for premature separation of the placenta.

The symptoms of uterus Couvelaire are those found in severe abruptio placenta, with tenderness over the uterus, and lateral to the uterus, over the broad ligament area. The treatment is supravaginal hysterectomy, as the uterus will not contract or retract in most cases.

The diagnosis at cesarean section is, of course, obvious from the color and appearance of the uterus, free blood in the peritoneal cavity, and possible hematomas in the broad ligaments.

If internal hemorrhage is suspected after a cesarean section, as in Hall's case, the diagnosis of uterine apoplexy should be considered and the abdomen opened.

If a case of abruptio placenta should be delivered vaginally, the placenta having separated during labor or delivery, and the uterus should fail to contract after ergot and pituitrin have been given, uterus Couvelaire should be suspected, and laparotomy performed. Finally, where a fibromyoma complicates pregnancy, the possibility of this complication should be borne in mind.

Blood transfusion promptly is, of course, necessary in these cases. In conclusion, we stress the importance of prompt supravaginal hysterectomy as soon as the diagnosis is made.

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The Rational Use of Digitalis

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TODAY, MANY DIFFERENT preparations of digitalis and the cardiac glycosides are widely advertised, each claiming to be the "drug of choice." As a result, confusion and uncertainty exist in the mind of the physician who is faced with the problem of prescribing digitalis in one of its many forms. Some physicians still prescribe the tincture of digitalis in conjunction with nux vomica as a "tonic" when there is no indication for the use of the drug. Again, the amount of the drug prescribed by some is too small to obtain a therapeutic effect. One must also decide whether to use the whole-leaf of digitalis or one of the more modern and more expensive cardiac glycosides, and, if a cardiac glycoside is to be used, which one of the many on the market is to be selected.

The purpose of this paper is to attempt to clarify the confusion which prevails concerning the proper usage of one of our most important, and unfortunately frequently misused, drugs.

I. ASSAY. The twelfth revision of the United States Pharmacopeia (1942) included, for the first time, the cat method of assay of digitalis: i.e., a cat unit represents the minimum amount of digitalis required per kilogram of body weight to kill a cat when injected intravenously. The potency of one U.S.P. XII unit of digitalis is equivalent to that of 0.1 gm. (1½ gr.) of the U.S.P. digitalis reference standard powder. Potency as measured by the clinical effect of digitalis, standardized according to the U.S.P. XII, is about 25 per cent weaker than that of U.S.P. XI, which is, in turn, approximately 50 per cent stronger than U.S.P. X. It is therefore apparent that the physician prescribing the whole leaf of digitalis must know which U.S.P. preparation he is using.

Digitalis preparations have been assayed in human beings by evaluating the effect on the electrocardiogram. Using the three standard leads, Bromer and Blumgart[1] found that T wave changes could be used to indicate the effective quantitative amount of the drug present.

Gold, et al,[2,3] have assayed the drug in normal human subjects and found that qualitatively similar effects were produced on the T wave and S-T segment with various preparations of digitalis.

The assay of digitalis is still imperfect and from a clinical standpoint the skill of the physician is the most important factor since assay does not reflect the clinical potency of the drug.

II. ACTION. Patients in congestive failure when adequately digitalized improve dramatically due to an increased cardiac output, lowered venous pressure, faster circulation time, and diminished blood volume. There is also an increase in the peripheral circulation, vital capacity, and alveolar carbon dioxide content. The respiratory minute volume and the basal metabolic rate are reduced.

If signs of decompensation persist, after apparently adequate digitalization, then, salt restriction, mercurial diuretics, and further limitation of activity are indicated.

The administration of digitalis produces definite changes in the electrocardiogram. These are, however, frequently indistinguishable from the effects producted by the underlying cardiac disease. Routine electrocardiograms are of value to the physician in directing and evaluating therapy and may indicate an early toxic effect of the drug which clinically cannot be detected.

Digitalis affects both the heart rate and rhythm. In the early stages of digitalis action, when the vagal influence dominates, the heart may be slowed; if used in toxic amounts, paroxysms of ventricular tachycardia may result.

Frequently, in damaged hearts, digitalis causes the appearance of premature beats. A characteristic indication of the toxic action of the drug is a bigeminal rhythm (coupling).

The change digitalis produces on the T wave is of greatest significance. It causes a depression of the S-T segment with a subsequent inversion of the T wave. This is the most characteristic effect of digitalis action on the electrocardiogram.

III. INDICATIONS. Digitalis is indicated in the presence of congestive cardiac failure, regardless of etiology, the presence or absence of cardiac arrythmia, heart rate, or blood pressure readings. Additional indications include auricular flutter, persistent auricular fibrillation, and heart disease

associated with hypertrophy. Some claim that digitalis is of value in valvular disease to prevent cardiac enlargement and subsequent failure.[4,5,6] Following acute myocardial infarction, digitalis should be used cautiously but if congestive failure ensues, the drug should be prescribed in adequate amounts. It has been used successfully in the treatment and prevention of paroxysmal auricular tachycardia and paroxysmal auricular fibrillation.

IV. CONTRAINDICATIONS. In the presence of congestive cardiac failure there are no absolute contraindications to the use of digitalis. If congestive failure is not present, contraindications include multiple ventricular extrasystoles, ventricular tachycardia, angina pectoris, recent or old myocardial infarction, carotid sinus hypersensitivity, and partial heart block. However, Blumgart and Altschule have shown that therapeutic amounts of whole-leaf digitalis given to patients with partial heart block are not followed by an increase in the block.

V. DIGITALIS AND THE CARDIAC GLYCOSIDES. The active principles of digitalis and substances having a digitalis-like action are derived from a variety of plants which are widely distributed in nature. They are referred to as glycosides because on hydrolysis they yield one or more molecules of sugar. The active principal is, however, an organic compound called aglycone or genin which has a specific action on the heart. The sugar molecules although inactive, in combination with the aglycone, potentiate the effect of the latter.[7]

DeGraff[8] has summarized the advantages of the glycosides. They are:

1. A smaller amount of the material can be given per dose.
2. Bio-assay is not required for standardization, the drug being standardized in terms of weight, and not in biologic units. Therefore, being more constant in composition, greater precision in dosage is possible.
3. Glycoside preparations are tasteless and odorless.
4. Glycosides can be selected specifically for a particular need as they vary in rapidity of action, speed of absorption, and elimination.

The glycosides digitoxin, gitoxin, and gitalin are derived from digitalis purpurea. Digitalis lanata yields the primary glycosides lanatoside A, lanatoside B, and lanatoside C. Digilanid is composed of lanatoside A (46%), lanatoside B (17%), and lanatoside C (37%). On hydrolysis of lanatoside A digitoxin is obtained, gitoxin is the resultant product from hydrolysis of lanatoside B, and digoxin from lanatoside C. It is apparent then that digitoxin and gitoxin can be obtained from either digitalis purpurea or digitalis lanata, whereas digoxin is derived only from digitalis lanata.

The sources of ouabain are strophanthus gratus and K-strophanthoside (strophoside). K strophanthin B and cymarin are derived from strophanthus kombe. White squill yields an amorphous scillaren A and a crystalline scillaren B.

WHOLE LEAF DIGITALIS. It is not advisable to follow a set routine in the administration of whole-leaf digitalis because of variations of the drug

COMMERCIALLY AVAILABLE CARDIAC GLYCOSIDES*

Name of Glycoside	Commercial Name	Manufacturer	Digitalizing Dose		Daily Maintenance mg. Dose (Oral)
			mg. I.v.	mg. Oral	
Digitoxin	Digitoxin	E. R. Squibb & Sons	1.25	2.2	0.1
	Crystodigin	Eli Lilly & Co.			
	Purodigin	Wyeth Inc.			
	Digitaline Nativelle	Varick Chem. Co.			
Gitalin	Gitalin (formerly Verodigin)	Rare Chemicals, Inc.		6.5	0.5
Lanatoside A—46% Lanatoside B—17% Lanatoside C—37%	Digilanid	Sandoz Chem. Co.	3.0	3.0-8.0	0.3
Lanatoside C	Cedilanid	Sandoz Chem. Co.	1.6	7 in 24 hr. 16 in 72 hr.	0.5-1.0
Digoxin	Digoxin	Burroughs Wellcome & Co. (U. S. A.)	0.75-1.0	2.0-5.0 Avg. 3.75	0.5-0.75
Ouabain	Ouabain	Carroll Dunham Smith Pharm. Co. Burroughs Wellcome & Co. (U. S. A.) Eli Lilly & Co. Hynson, Westcott, and Dunning	0.7-1.0		
K. Strophanthin	K. Strophanthin	Abbott Laboratories	0.7-1.0		
K. Strophanthoside	Strophoside	Sandoz Chem. Co.	1.0		
Mixture of scillaren A and scillaren B	Scillaren	Sandoz Chem. Co.	1.0-1.75	9-14	0.8-1.6
Scillaren B	Scillaren B	Sandoz Chem. Co.			

*Table adapted from DeGraff, A. C.: Clinical comparison of the cardiac glycosides. N. Y. State J. M. 46: 1803-1810, 1946.

and of the patients. Because of variations in the various commercial brands of U.S.P. XII digitalis, it is more satisfactory for the practitioner to familiarize himself with and use exclusively one brand in the treatment of his patients. Clinical results will then be easier to evaluate and duplicate. In most cases of congestive failure, if digitalis has not been previously used, it is advisable to give 0.3 gm. of digitalis purpurea (U.S.P. XII) three times the first day, and then 0.1 gm. daily until the optimal therapeutic effect is obtained or minor toxic symptoms appear. A satisfactory end point in patients with a rapid auricular fibrillation is a ventricular rate of about 70. The daily maintenance dose is 0.1 to 0.2 gm.

DIGITOXIN. Digitoxin is completely absorbed from the gastro-intestinal tract, therefore the intravenous and oral doses are identical.[9] Following intravenous injection, initial effects are noted in 25 minutes to 2 hours with maximal effects appearing within 2 to 9 hours. Given orally, digitoxin is completely absorbed within 4 to 10 hours. In potency, 1 mg. of digitoxin is approximately equal to 1000 mg. of U.S.P. XII digitalis reference powder, therefore 1.25 mg. of digitoxin has the same effect on the ventricular rate as 1.25 gm. (16.3 cat units) of the whole-leaf.[10]

Gold[11,12] observed that a single oral digitalizing dose of 1.26 mg. caused nausea within two hours in 2 per cent of a large series of patients. An equivalent dose of whole-leaf digitalis caused nausea in 20 per cent of the same group. Because digitoxin is so potent and so well absorbed (digitalis absorption being only 20 per cent and lanatoside C 10 per cent) Gold [12] believes that the single dose method of digitalization should replace the multiple dose methods using either digitalis leaf or tincture. He recommends that a single dose of 1.2 mg. be given at one time either orally or intravenously and that the daily oral dose be 0.1 to 0.2 mg., usually the latter, depending on response. However, Freedberg and Zoll[10] found that the daily maintenance dose varied from 0.1 to 0.4 mg.

DIGOXIN. The effects of a single dose of digoxin appear within three to thirty minutes and become maximal in one and one-half to five hours.

Digoxin is a superior glycoside for rapid oral digitalization given in divided doses. Should toxic symptoms appear, they are of short duration.

The average therapeutic and toxic doses of digoxin given orally and rapidly are 3.75 mg. and 6.0 mg. respectively. One to two milligrams may be given at once followed by 0.5 mg. every six hours until the desired effects are obtained.[14] Should intravenous administration be necessary, 1.0 mg. may be given followed by 0.5 mg. every six hours as required. The daily oral maintenance dose varies from 0.25 to 1.25 mg. One milligram three times daily, was required in some cases to maintain digitalization.[14]

Digoxin is valuable for rapid digitalization, but has no particular advantage over lanatoside C. Due to its relative insolubility and irritating qualities, intravenous administration is difficult. It is also difficult to maintain complete digitalization over a long period of time due to the rapid elimination of the drug.

DIGILANID. Digilanid is composed of the three primary glycosides of digitalis lanata combined in a fixed ratio, so that constant composition can be secured. In this respect it is superior to the whole-leaf of digitalis. It is stable, readily absorbed, rapidly effective and has a wide therapeutic range.[8]

One tablet containing 1/3 mg. is equivalent to one U.S.P. unit of digitalis. Therefore, initial digitalization and maintenance dose are similar to that of the whole leaf.

LANATOSIDE C (Cedilanid). The earliest effects following intravenous administration of the drug are noted within ten to thirty minutes with a maximal effect within two hours.[15] Compared with other glycosides, lanatoside C acts faster than digitoxin, is similar in action to digoxin, and is slower than ouabain. Its effect is shorter than that of digitoxin and longer than that of digoxin and ouabain.

For intravenous digitalization the initial dose is 1.2 to 1.6 mg. which may be followed by 0.4 mg. every 4 to 8 hours until the desired effect is obtained. The single oral dose required for digitalization varies from 5 to 10 mg.[16] In general, 7.5 to 10.0 mg. is recommended over a two or three day period as the oral digitalizating dose. The maintenance dose varies from 0.5 to 3.0 mg. daily. This may possibly be the result of the poor absorption and rapid elimination of lanatoside C.[10]

STROPHANTHINS. The absorption of the strophanthins and derivatives, ouabain, K. strophanthin, and K. strophanthoside from the gastro-intestinal tract is so poor that they are not suitable for oral administration.[17,18] On intravenous injection they are the most rapidly acting glycosides available at present. The initial effects appear within 3 to 4 minutes[19] and the maximal effects within 30 minutes to 2 hours.[20] The total duration is from 24 to 72 hours.[21]

It has been recommended that ouabain or K. strophanthin be given intravenously in doses of 0.3 mg. to 0.5 mg. for emergency digitalization following which 0.1 mg. may be given every 30 to 60 minutes until the desired effect is obtained.[21] Because the action of these drugs is of short duration, it is advisable to use simultaneously either a glycoside or the whole-leaf possessing a longer latent period. Therefore, it has been advised that in conjunction with the intravenous injection of 0.5 mg. ouabain the following doses of digitalis be given according to the body weight of the patient. Four cat units should be given to patients weighing 125 pounds or less, 6 to patients weighing between 125 and 175 pounds, and 8 cat units to patients weighing more than 175 pounds.[21,22] The patient may then be placed on a daily maintenance dose of whole-leaf digitalis at the end of 24 hours.

Summary

The cardiac glycosides are a valuable adjunct to digitalis therapy. However, because they differ in rate of absorption, speed of action, and elimination, they must not be used without knowledge of their individual characteristics. It is imperative that the physician administering these life-saving, and, if misused, frequently life-endangering drugs, be fully aware of their properties. Every practitioner should become thoroughly familiar with two of these preparations, one for emergency digitalization and the other for oral administration. To learn and remember the pertinent facts of all these preparations is a misuse of both time and energy.

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The Biologic Classification of Tissues and Its Significance for the Study of Senescence and Neoplastic Growth

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THE STANDARD CLASSIFICATION of tissues into the well-known four main groups, namely, epithelium, connective tissue, muscular tissue, and nervous tissue, is based on a compromise between functional and morphological concepts. Another classification, useful in discussing certain problems of developmental anatomy and of pathology, refers to the origin of the various tissues from the three fundamental germ layers, ectoderm, mesoderm, and entoderm. Although these layers are not strictly specific as far as the development of tissues is concerned it is generally recognized that typical histogenetic performances characterize the different layers. Epithelium is formed by all three layers, while connective tissue and muscular tissue originate from the mesoderm. A few types of muscular elements, however, develop from the ectoderm, and possibly also from the entoderm. Nervous tissue originates only from the ectoderm. Because of the peculiarities inherent to each germ layer, the distinction of entodermal, mesodermal, and ectodermal tissues appears justified, and has a definite, but limited usefulness.

There exists furthermore a third classification of tissues based on such highly significant biological traits as duration of life, reproductive and regenerative properties, and character of growth. This biologic classification was first conceived and formulated by Giulio Bizzozero (1894). It has been repeatedly discussed and stressed by Giuseppe Levi (1946) but has not been widely adopted. At the Woman's Medical College of Pennsylvania, I have for many years made use of this classification as starting subject for a series of introductory lectures on cell life, cell death, tissues, and neoplasms. I found that this approach was helpful in adding a more dynamic viewpoint to the static aspects of histology and microscopic anatomy necessarily emphasized in the well-established traditional course.

The biological classification of tissues distinguishes three groups of cells, labile, or unstable, elements, stable elements, and perennial elements.

The labile, unstable elements are constantly destroyed and reproduced during the life of the individual. They are thus characterized by short

duration of life, high regenerative or proliferative power, and rapid turnover. Many epithelia belong to this group, which includes the elements of the epidermis and the lining of many mucous membranes, among which the uterine mucosa should be mentioned. To this group belong also glandular epithelia of holocrine glands, such as sebaceous glands, and, in addition, germ cells, blood cells, and elements of the blood forming tissues. Bone, which Bizzozero regarded as stable, must be considered to represent an at least potentially unstable tissue.

The stable elements proliferate during the developmental and growth period, but from there on do not manifest very extensive changes involving destruction and regeneration throughout life under normal conditions. They may, however, be able to reproduce and regenerate to a certain extent. This category comprises many glandular epithelia, such as liver, pancreas, kidney, and salivary gland cells; moreover, smooth muscle cells, neuroglia, and many elements of the connective tissue must be included in this group.

The perennial elements cease proliferating at a comparatively early time, possibly shortly before birth. Thereafter, the number of individual elements does not show any further increase, but the volume of each individual element expands concurrently with growth. Destroyed elements can not be regenerated, yet normally the life of these cells may last as long as the life of the organism. The perennial elements are represented by nerve cells and striated musculature, including skeletal and cardiac muscle. Other structures such as the lens fibers also belong to this group.

Aging and death are the ultimate phases in the evolution of cells and of organisms. It is necessary, however, to make a clear distinction between aging or death of the organism as a whole and aging or death as far as individual cells and cell groups are concerned. These events are of very different import, inasmuch as aging, dying, and dead cells can be found in young organisms, whereas proliferating and newly developed young cells are present in old individuals. Local or partial death must thus be differentiated from intrinsic death of the organism (Korschelt, 1924). Local death is already a significant occurrence during embryonic development. Destruction of transitory structures precedes and accompanies many formative processes. Local death not only precedes but also follows intrinsic death since numerous cells and tissues with comparatively sluggish metabolism may survive the death of the organism for a short time. Cells explanted immediately after an animal is killed may be kept alive far beyond the life of the organism from which they were taken.

Intrinsic death is thus not necessarily total death, and, therefore, the former term is selected in preference to the designation total death used by Korschelt.

With increasing age the perennial elements, especially those of the central nervous system, show unmistakable morphologic changes. This has been repeatedly noted by various authors and was recently confirmed in the study of senile changes in the brain of Wistar Institute rats (Kuhlenbeck, 1944) undertaken as part of a systematic research on aging organized by the Wistar Institute and the Samuel S. Fels Fund. Pyknosis, shrinkage, fibrillary changes, ghost cells, and complete cell loss are some of the characteristic manifestations of senescence affecting nerve cells. The gathering of lipofuscin in large neurons and in cardiac muscle fibers is another conspicuous senile change found in the human organism.

It is not unlikely that the so-called physiologic death from old age may essentially result from irreversible alterations in perennial elements such as nerve cells and cardiac muscle fibers (Perthes, 1927).

At the other end of the scale, the labile elements exhibit little unchallengeable morphologic evidence of aging. Nevertheless, a progressive loss of proliferative and regenerative power becomes clearly noticeable and has been reported by various observers (Korschelt, 1924; Lecomte du Nouy, 1937).

Neoplastic growths arise from labile, stable, and perennial elements, including all the four main tissues of the standard classification. Tumors of perennial elements, may, however, be contingent upon the presence of embryonal residues, as postulated in Cohnheim's theory. This much discussed theory (Cohnheim, 1877) assumes various types of embryonal remnants, either displaced, abnormally persistent, or otherwise aberrant. It does not, of course, explain why such rests become neoplastic in some instances and remain dormant in others. Recent studies on neuroectodermal tumors by Globus and Kuhlenbeck (1942, 1944) and by Kuhlenbeck and Haymaker (1946) have again substantiated the validity of Cohnheim's theory and shown that a normally persistent remnant of embryonal matrix, the subependymal cell plate, plays an important role in the histogenesis of brain tumors. Other embryonic structures, namely, the transitory superficial granular layer of the cerebellum, and the optic cup, were pointed out as the site of origin for neuroectodermal tumors of

borderline dysplastic character (Kuhlenbeck and Haymaker, 1947).

On the other hand, there is no evidence that the very common and highly malignant neoplasms of labile tissue elements, such as carcinoma of the stomach, of the uterus, and many others, arise from embryonic residues. Cohnheim's theory may thus be valid for tumors of perennial and certain very stable tissues (neuroglia) but not for tumors arising from less stable tissues or from labile elements.

Cohnheim's theory in this version obviously does not give an explanation but merely defines a prerequisite.

A wider adoption of the biological classification of tissues and the application of its criteria to numerous problems related to senescence and oncology will doubtless be helpful. This approach groups morphologic structures according to a time factor and thus seems most appropriate for a study of phenomena of growth.

Summary

The biologic classification of tissues based on the concepts of Bizzozero takes into account relative durability of tissue elements, turnover, and the faculties of reproduction and regeneration. Unstable, or labile, stable, and perennial elements are distinguished. The manifestations of senescence show different patterns in accordance with this classification. As regards neoplastic growth, the validity of Cohnheim's theory in a modified form can be substantiated for tumors of certain perennial and stable elements. It is believed that greater emphasis on the biological classification of tissues in the discussion of problems of senescence and of neoplastic growth may open up promising leads.

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Teaching Preventive Medicine to Undergraduate Premedical Students

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Dr. Wilson G. Smillie dedicated his recent publication, "Preventive Medicine and Public Health" (1946), in the following manner:

"This text is dedicated to Lemuel Shattuck, a Boston book seller, who in 1850 wrote as follows: 'Sanitary professorships should be established in all our colleges and medical schools and filled by competent teachers. The science of preserving health and preventing disease should be taught as one of the most important services. It would be useful to all and particularly to the student in curative medicine'."

Shattuck's program is just as applicable today as it was nearly 100 years ago. It is of vital importance to arouse the interest of the medical student in the subject of preventive medicine. Instructors must have a keen interest in their subjects and must develop interesting techniques of presentation. They should be stimulating so that the students will learn to think of the possibilities of preventive medicine.

Objectives: Students must be helped to develop a proper point of view about preventive medicine and the part they will have to play in it as future practicing physicians. They should be made to

realize their obligations in the prevention of illness and the promotion of family and community health. In preventive medicine we study the individual and his family in relation to the community. We must consider not only the persons suffering from a disease, but also what effect this illness has on the family and even on the community. It has only been in recent years that medical students have begun to realize that they must consider the social implications of medical practice and must take an active interest in the relationship of preventive medicine to clinical medicine.

Program. Health authorities agree that in order to develop this new attitude of considering health rather than disease, medical schools should organize a separate department of preventive medicine. They recommend further that there be close coordination of this department with other departments in the college, especially those of medicine, pediatrics, obstetrics, and bacteriology, to name a few. It is considered advisable to have some subject matter presented in all four years of the medical course, since preventive medicine enters all fields of teaching.

While preventive medicine must be incorporated into every department of teaching, there are certain special fields of knowledge which have little direct relationship with clinical medicine, such as public health administration, environmental sanitation, and statistical techniques. Other subjects such as epidemiology and socio-economic factors encroach on all other departments and have a direct bearing on the etiology and treatment of disease. Best results are obtained by integration of subject matter, and by agreement among the faculty as to the methods of coverage.

Another important phase of teaching preventive medicine is co-ordination of the course with outside agencies, both official and voluntary. The student must understand the scope of responsibilities and duties of the health department so that she will become interested in co-operating intelligently with the health department when she enters practice. One of her principal obligations as a practicing physician will be to interest herself in health protection and health promotion of the people in the area where she practices.

The teaching of preventive medicine to the medical student should not be directed toward fitting her for a public health career. This belongs to postgraduate instruction. Each student, however, should be trained to become a health advisor for her own future patients.

Outline: It might be interesting to outline briefly the course in preventive medicine as it is given at the Woman's Medical College of Pennsylvania. At present we do not have a full time professor in charge of the department, but it is a separate department. It works closely with the division of student health. During the first year the course is termed "Maintenance of Health" and is directed toward the student's own health. The second year is devoted to "Sanitation." Field trips cover housing, water, milk and food sanitation, restaurant practice, and garbage and sewage disposal. The third year is devoted entirely to "Industrial Hygiene" and is conducted by Dr. Charles Francis Long. He also has special field trips in connection with his presentation. The fourth year is devoted to "Epidemiology" and includes field trips to the Municipal Court and to one of the consolidated health centers. All presentations are informal and include discussion. They are given by a number of guest lecturers who are experts in their particular fields. For example, the freshman course is introduced by Dr. William Harvey Perkins, Dean of the Jefferson Medical College, who gives an excellent presentation on "Health Today and Tomorrow." The sophomore course is introduced by Dr. Huntington Williams, Health Commissioner of Baltimore, who talks on "Basic Principles of Sanitation." Last year Dr. Wilson G. Smillie, Professor of Preventive Health and Medicine of Cornell University Medical College, opened the senior course by presenting "The Relationship of Epidemiology to the Practice of Medicine."

Summary: Teaching of preventive medicine to under-graduate medical students should stress positive health. It should be directed toward arousing the students' interest in preventive medicine and demonstrating to them how they can become public health advisors to their patients. In order to have adequate teaching of preventive medicine there must be a separate department as is recommended by the American Association of Medical Colleges and the American Medical Association. These organizations advocate that 4 per cent of the curriculum of medical students be devoted to preventive medicine. It would be interesting to know how many colleges adhere to this recommendation. A satisfactory course of preventive medicine must have the active interest and cooperation of all other departments in the medical school as well as community organizations, so that students may visit both official and voluntary agencies and observe the methods employed in the promotion of public health.

Woman's Medical College of Pennsylvania

Historical Sketch

WILLIAM G. LEAMAN, JR., M.D., F.A.C.P.
Professor of Medicine, Woman's Medical College of Pennsylvania

First Woman's Medical College Building (as it appeared at the first commencement in 1850), located on Arch Street, below Seventh, in Philadelphia.

A HUNDRED YEARS AGO, in our growing democracy, education was one of the great reforms of the age. To women, denied political rights, education assumed an extremely important role as the one hope for a brighter future. Magazines of the day took notice of this trend and directed their readers' attention toward educational matters. Only a few women editors, however, were daring enough to advocate the education of women doctors.[1]

Our story begins in 1849 when Miss Elizabeth Blackwell received an M.D. degree from the Medical Department of Geneva College, Geneva, New York, and became the first woman to graduate in medicine in the United States. While this event aroused conflicting sentiments, women were nevertheless encouraged to apply for admission to the medical schools throughout the land. Many petitioned the Philadelphia schools for admission. All were denied . The demand was finally met by the organization of the first college in the world for the education of women in medicine. The charter of the Woman's Medical College of Pennsylvania was granted March 11, 1850, and the school opened the following October in a building in the rear of 627 Arch Street, Philadelphia.

At this point we should, perhaps, mention that there were two claimants to the distinction of being the first medical college for women in the world—the Philadelphia school and a school in Boston, formerly "The New England Female Medical College." In 1848 a society was organized in Boston to provide women with the instruction necessary to qualify them for the practice of midwifery. A school was opened and lectures on the subjects of midwifery and general medicine were provided. In 1850 this society was incorporated under the name of "The Female Medical Education Society" for the stated purpose of providing for the education of "midwifes, nurses, and female physicians." However, the charter did not permit either the appointing of a faculty or the conferring of the degree of Doctor of Medicine. In 1856 a new charter was obtained which gave the trustees "—power to appoint professors who shall constitute a medical faculty and to confer the usual degree of Doctor of Medicine."[2]

In issuing to the public the "First Annual Announcement" of the new "Female Medical College" in Philadelphia the faculty felt deeply impressed with the importance of their position with "the relation to the community in general and the medical profession in particular."[3] The object of the institution as stated in the "Announcement" was "to instruct respectable and intelligent females in the various branches of medical science; whose rights and privileges upon receiving the degree of the Doctorate in this institution will not be inferior to those of the graduates of any other medical institution in this country, or in Europe."

When compared to the other Philadelphia medical schools at the time, the fees mentioned in the "First Annual Announcement" were modest indeed. The entire cost of two years of study must have been about $150.00—not counting books and living expenses. We also learn from this "Announcement" that good board could be obtained from $1.50 to $3.00 per week in the City of Brotherly Love at that time. Prospective students

were informed that a janitor was always in attendance "to receive the commands of the pupils."

Forty students matriculated during the initial session (1850-51). Eight of them graduated at the first commencement exercises held on December 30, 1851. Dr. Ann Preston was the best known member of the first class. When she subsequently accepted the Chair of Physiology and Hygiene in 1852 she became the first woman medical professor in the country.

The next year Elizabeth Horton Cleveland entered the College. She was graduated in 1855, and after an advanced course of study in Europe, was chosen to fill the Chair of Anatomy at the close of the session of 1856-57. These two women, one a dauntless pioneer and the other a skilled operator and administrator, carried the institution through a long period of struggle against obstacles within and without. In that day the woman's movement was considered almost as unpardonable an innovation as exclusive systems of medical practice. Moreover, followers of new medical theories were more favorable to woman than the regular school of medicine. In consequence, some of the first friends of the woman's movement were among those who were not calculated to enhance its reputation. The new college strove to avoid this tendency and raise the institution to the highest standard of the conservative schools. This soon resulted in a complete change in faculty and management, and by 1853 Dr. Preston became the veritable founder of the conservative Woman's Medical College of today.[4]

During the next few years the faculty of the school was greatly strengthened, and in 1867 the name of the institution was changed to "The Woman's Medical College of Pennsylvania."

While from the beginning high standards have been maintained we cannot overlook the fact that concern regarding the lack of hospital facilities was expressed a short time after the founding of the institution. In 1861 the Woman's Hospital of Philadelphia was opened. Although not under the control of the Woman's College it filled a real need and made possible the sound progress of the College. Other Philadelphia hospitals soon permitted women students in their wards, and by 1869 students from the College were allowed to attend clinical lectures at the Pennsylvania Hospital.[5]

The College weathered the difficulties of the Civil War period, though it did have to close its doors for one session during that critical time.

Old College building at North College Avenue and Twenty-first Street, Philadelphia.

The most important event of the postwar period was the opening of the new College building made possible by a generous bequest from the late Isaac Barton. This was the first in the world to be built exclusively for the education of women in medicine.

During the later years of the nineteenth century, when medical knowledge was advancing by leaps and bounds, the College kept abreast of the times. The number of beds in the Woman's Hospital was nearly doubled by the opening of a maternity building in 1878. In 1881 the course at the College was increased to three years, and in 1893 a four year course, hitherto optional, was established. The growth of the knowledge of bacteriology necessitated the opening of a special laboratory in 1896. As the century closed other laboratory and clinical facilities were added and the faculty, 6 in 1850, numbered 59 professors, lecturers, demonstrators, clinical assistants, and assistants. Physicians from 38 states and territories and 19 foreign countries were numbered among the alumnae of the institution.

At the opening of the twentieth century a great reform in medical education took place. A number of poorly equipped schools, founded on a commercial basis, which were turning out many "pseudo-physicians," were forced to close their doors.[6] Behind this movement was the report on prevailing conditions of medical education in the United States and Canada published in 1910 by Dr. Abraham Flexner. This exposed without hesitation all surviving abuses and offered a great number of creative suggestions. The Woman's Medical College, with the other surviving medical

Architects' sketch showing present and proposed buildings at Henry Avenue and Abbottsford Road, East Falls, Philadelphia.

schools, went ahead during the early years of the century on a firmer basis into the new era.

In 1925, commemorating the 75th Anniversary of the founding of the College, the Corporation initiated a movement to secure an expansion fund for new buildings and endowment. A site of aproximately ten acres at Henry Avenue and Abbottsford Road, East Falls, Philadelphia, was purchased in 1926, and in October 1929, the erection of the first building in the expansion program was begun. On June 11, 1930, the auditorium of the new building was opened for the annual commencement exercises and the formal laying of the cornerstone took place on the same date. The College and Hospital activities were transferred to the new building on September 15, 1930. The Barton Dispensary Obstetrical service and other clinics were operated on the site of the old College building at 21st and North College Avenue, and in 1946 were transferred to one of the City Health Clinics.

More than 2,000 women have received the degree of Doctor of Medicine from the Woman's Medical College. Over 1,000 of these physicians are living and practicing today.

During World War II graduates of this school contributed much to the national war effort. Graduates of the College and of the Nurses Training School of the Hospital served with distinction in the Armed Forces. Others served successfully as replacements in all fields of medical practice relieving men for active duty.

At present the Woman's Medical College is actively preparing for its 100th Anniversary Celebration in 1950. The question whether this institution still fulfills a useful function has, we hope, been answered in this very brief survey. As we near the century mark it is evident that much of the credit for survival must be given to those sturdy pioneers who possessed "the rare virtue of having persevered in dignified silence, year after year, conquering prejudice and winning confidence, not by assertion, but by achievement."[7]

References

[1]Thompson, Eleanor Wolf: Education for Ladies, 1830-1860. Columbia University Press, New York, 1947.
[2]White, Frances Emily: The American Medical Woman, Medical News, August 3, 1895.
[3]First Annual Announcement of the Female Medical College of Pennsylvania for the Session 1850-51, Situated in Philadelphia, p. 5.
[4]Henry, Frederick P.: Standard History of the Medical Profession of Philadelphia. Goodspeed Brothers, Chicago. 1897.
[5]Norwood, William F.: Medical Education in the United States before the Civil War, University of Pennsylvania Press, Philadelphia, 1944.
[6]Sigerist, Henry E.: American Medicine. W. W. Norton and Company, Incorporated, New York, 1934.
[7]The Evening Bulletin, Philadelphia, March 12, 1875.

Woman's Medical College of Pennsylvania

A Door of Opportunity for Women

Proud of its approaching 100th Anniversary, the Woman's Medical College looks forward to another one hundred years of usefulness. As growth is the sign of a living organism, so expansion is the sign of a living institution. The Centennial Expansion Program of the Woman's Medical College is outlined briefly on this page. The realization of this program will require the help of women physicians and the friends of women physicians throughout the nation. Convinced that the record of the College, past and present, fully justifies this, the Expansion Committee, with confidence, bespeaks your help.

What We Have

FACULTY—interested, able teachers, investigators and clinicians 166

PERSONNEL—other trained people, many with long periods of service 280

AN ACCREDITED MEDICAL COLLEGE with an annual budget of ....$ 200,000

A CLASS A GENERAL HOSPITAL with 200 beds and an annual budget of .....$ 430,000

A SCHOOL OF NURSING whose academic program is under the supervision of the Medical College

LAND—11 acres—and BUILDINGS with estimated value of $1,250,000
(Subject to a mortage of $575,000*)

TRUST FUNDS—$1,000,000 of which $300,000 is in Scholarship Funds $1,000,000

What We Need

EXPENDABLE FUNDS for salaries and improvements over the next 3 years .....$ 150,000

GENERAL ENDOWMENT for increased salaries for faculty and personnel and increased costs of operation $2,250,000

PHYSICAL EXPANSION OF COLLEGE AND CLINICAL FACILITIES—More beds for teaching purposes; additional clinic space, teaching and research facilities; housing facilities; expansion of utilities, laboratory and plant facilities $1,250,000

*MORTGAGE RETIREMENT—Through the generosity of the mortagee, the entire mortgage can be liquidated for the sum of .....$ 350,000

TOTAL $4,000,000

Louise Pearce, M.D.

President

Dear Dr. Pearce:

I want to have a part in helping The Woman's Medical College toward its second century of service. You may count on me for a contribution of $_____ toward the Expansion Fund.

☐ Check is enclosed ☐ Will send contribution as follows:.

Name_____

Address_____

A contribution of any amount will help. Contributions are allowable deductions for Federal Income Tax purposes. Make checks payable to The Woman's Medical College of Penna. Mail to 3300 Henry Avenue, Philadelphia 29, Penna.

INTERNATIONAL SECTION

MEDICAL WOMEN'S INTERNATIONAL ASSOCIATION

PROF. A. CH. RUYS, *President*
Hanthorstratt 50, Amsterdam Z,
The Netherlands.

DR. DORIS ODLUM, *Hon. Treasurer*
56 Wimpole St.,
London, W.1., England.

DR. G. MONTREIL-STRAUS, *Hon. Secretary*
75 rue de l' Assomption,
Paris, xvl, France.

Report of the National Corresponding Secretary of the American Medical Women's Association to the Medical Women's International Association

THE MEMBERS OF THE American Medical Women's Association send greetings and best wishes to the members of the Medical Women's International Association at this first meeting since 1937. For our council members and delegates who are here it will mean renewal of friendships for some and for others an opportunity for making new acquaintances among the medical women from all parts of the world.

We, in America, have been most fortunate during these past ten years. Although we, too, have lost members of our families and many loved ones and friends in the recent war, we have not been without shelter and sufficient food and clothing, nor have we been forced to endure occupation and destruction of our country by enemy forces, as so many of you have. We are well aware of our blessings.

We felt many times that we were handicapped in sufficiently aiding those in Europe who so sorely needed help. However, we found we could send aid through our American Women's Hospitals Committee when it was not possible to do so in other ways. I have asked Dr. Esther Lovejoy, Chairman of the American Women's Hospitals Committee, to write her own short report of the work of this Committee, which is as follows:

"The headquarters of the American Women's Hospitals Committee of the American Medical Women's Association in New York City was the headquarters of the Medical Women's International Association for its first five formative years from 1919 to 1924. The members of our American Women's Hospitals Committee, several of whom served for over twenty years, were internationally minded. We realized that personal acquaintance and close association with the women physicians of the world were important to the medical relief work in which we were engaged. Time has justified this opinion. For the past seven years it has been our privilege to co-operate with women doctors of war-torn countries in the relief of civilian sick and injured—victims of our common cause.

"FRANCE. In September, 1939, soon after the beginning of World War II, the French Medical Women's Association appointed a special committee to co-operate with the American Women's Hospitals. This committee included Dr. Montreuil-Straus, Chairman, Dr. Blanchier, President of the French Medical Women's Association, Dr. Drefus-See, and others. In addition to medical relief work conducted by this Committee until France was invaded by the enemy in the summer of 1940, the American Women's Hospitals Clinic at the Residence Sociale, Levallois-Perret, was maintained, and nurses were provided for service with the American Friends of France operating in the northern provinces.

"The American Women's Hospitals Clinic at Levallois-Perret was carried on during the war and is still serving a large population. And the work of the committee organized by the French Medical Women's Association, suspended during enemy occupation, was resumed in 1945 and is conducted in co-operation with the C.O.S.O.R. (Comite des Oeuvres de la Resistance) under the direction of Dr. Marie Helmer, who served with the Resistance Movement during the war.

"BRITAIN. Through the British Medical Women's Federation the American Women's Hospitals Committee has contributed to the care of war victims since July, 1940. Our British colleagues were on the spot in every part of Britain and through them we were able to help hospitals, clinics, and individuals promptly and effectively after air raids. One of our most precious possessions is a round robin signed by sixty-three women doctors who were personally serving where bombs were falling, and who made it possible for us to participate in the care of the injured.

"Ten American women doctors were accredited to the American Red Cross by the American Women's Hospitals Committee for duty with the British Emergency Medical Service in 1941. Some of these were afterward transferred to the Royal Army Medical Corps, and the American Expeditionary Forces.

"CHINA. By the simple, humane plan of providing salaries for our colleagues caring for the sick among their own people, an efficient medical relief service has been carried on for several years in different parts of China. At present we are supporting part of the staff of the West China Union University Hospital at Chengtu. The cost to date has been over $60,000 and the value inestimable.

"GREECE. The American Women's Hospitals Service (including hospitals, clinics, and a training

school for nurses conducted in Greece for many years before the war) was suspended in 1941 and resumed in 1945. At Kokkinia, the poorest large city in that poor country, the American Women's Hospitals Polyclinic, with its out-patient service, has been reopened. Full or supplementary salaries are paid to nineteen of the American Women's Hospitals graduate nurses in Greece, and clothing for doctors, nurses, and patients, as well as hospital supplies, have been sent to that country. This service is conducted under the direction of the Alumnae Association of the American Women's Hospitals School of Nursing in Greece.

"AUSTRALIA, FINLAND, HOLLAND, INDIA, NORWAY, RUSSIA. Contributions have been made through women doctors of these countries for medical relief work."

* * *

In 1938 some of the members of the A.M.W.A. began to receive requests, I might say pleas for help from medical colleagues in European countries who were beginning to feel the burden of persecution. A Committee to take care of these was appointed from the American Medical Women's Association, with Dr. Rita Finkler as Chairman. I have asked her to make a brief report, which is as follows:

"Through the efforts of the members of this Committee, the Emergency Aid Committee of the American Medical Women's Association, fifteen affidavits were issued to our foreign colleagues, who were obliged to flee from Austria and Germany. All were dispossessed of their homes and offices and stripped of all their worldly goods. Seven of these physicians have arrived in this country; the others were unable to obtain transportation, but hope to come here someday.

"Numerous women physicians, who arrived in this country on the affidavits issued by their friends or relatives, consulted the committee for advice, positions, guidance, financial help, etc. To date we have assisted over one hundred women physicians; financial aid being given to eighteen.

"Since the end of hostilities our committee's chief work has consisted in sending packages containing food and clothing to women physicians in European countries. Dr. Lydia B. Hauck has been most active in organizing this work."

* * *

When our country entered the war in December 1941, women physicians were not eligible to serve in the Medical Corps of either the Army or Navy of the United States.

The American Medical Women's Association, through the leadership of Dr. Emily Dunning Barringer immediately began the fight for legal status in the service for our medical women.. But it was not until April 1943, that commissions were finally granted to women physicians in the Medical Reserve Corps of the United Army and Navy. Most of our medical women had in the meantime found their places in localities and hospitals depleted of male physicians. Even so, many did enter the service and served with distinction both at home and abroad.

At the end of the war period, under the leadership of Dr. Alice Stone Woolley, we brought to realization the establishment of a monthly publication, the Journal of the American Medical Women's Association. The new interest and activity in the Association which this Journal has already stimulated is most gratifying.

The International Section in the Journal of the Americal Medical Women's Association has attracted much interest among the members of the Medical Women's International Association, many of whom have sent articles and news for publication. We hope that your interest in this section may grow and we offer the services of the International Section of the Journal of the American Medical Women's Association as a medium of exchange for reports and news of your individual organizations and for the Medical Women's International Association in the intervals between the times of publication of its own Journal.

For twenty-two years our Association has had a Scholarship Loan Fund by means of which we have assisted 64 students during their college course. Two years ago we granted a year's Fellowship to a young Mexican woman physician who did graduate work in pediatrics in the Children's Hospital in Washington, D. C. As our funds grow, we hope to be able to award more fellowships in the future.

We are looking forward to several centennial celebrations within the next three years. We begin this year with the 100th Anniversary of the founding of the American Medical Association.

In 1949 we will celebrate the 100th anniversary of the graduation of Dr. Elizabeth Blackwell, the first woman physician to graduate and practice medicine in the United States. The annual meeting of the American Medical Women's Association in 1949 will take place in New York City and there will be suitable exercises at the New York Infirmary which Dr. Blackwell founded in 1857.

Recently the New York Infirmary launched a campaign for $5,000,000 to build a modern 350 bed hospital, which, according to Infirmary tradition, will be staffed entirely by women physicians. This new building is to be not only a fitting memorial for those who pioneered that women might have the best in medical training, but also a modern hospital for the care of the sick, a scientific workshop for the testing of new ideas, and a center for post-graduate education of international importance.

In 1950 the Woman's Medical College of Pennsylvania, the only medical college exclusively for women in the United States, will celebrate the 100th anniversary of its founding. This pioneer institution has stood the test of time. Its graduates have made important contributions to medicine at home and abroad. It has been, is now, and will continue to be a door of opportunity for women students and women physicians from all parts of the world.

In conclusion, the American Medical Women's Association extends an invitation to the Medical Women's International Association to hold its next meeting in 1950 in Philadelphia, Pennsylvania. As we have noted above this will be the centennial year of the founding of the Women's Medical College and we think it very fitting that the meeting of the Medical Women's International Association be held in conjunction with this celebration.

Respectfully submitted,
HELEN F. SCHRACK, M.D.
National Corresponding Secretary of the American Medical Women's Association

ORGANIZATION

Official Reports and Announcements of the Association

PRESIDENT'S MESSAGE

The Significance of the Blackwell Centennial

One hundred years ago the only course open to a woman who wished to support herself or a family was teaching, sewing or housework. There were no doctors, no lawyers, no dentists, no secretaries, no trained nurses, no research workers, no librarians or other professional women.

When Elizabeth Blackwell's father died and she and her sister as the older members of the family, were confronted with the support of a large, romping, merry group of nine children they turned to teaching as a means of livelihood. While engaged in this occupation in Walnut Hills, Cincinnati, the idea of studying medicine was planted in her soul, and agonizing months were spent here and in the lonely environment at Hendersonville, Kentucky. After her decision was made the repeated refusal of the medical schools to accept her application would have defeated a less sturdy spirit. She was spurred on by the high purpose with which she believed she was inspired as she prayed in her agony of decision, "O God, help me, enlighten me." In her diary she records, "A glorious presence as of a brilliant light, flooded my soul. All doubt and hesitation as to the rightfulness of my purpose left me and never in after life returned." After spending fourteen months in training Elizabeth Blackwell stepped out into hostile world and walked a lonely and rugged path. How lonely her life was is recorded in her diary where she says, "It is hard with no support but a high purpose to live against every species of social opposition. I should like to have a little fun now and then, life is too sober."

The attitude of the world against women in the professions is hard to conceive in these days when women may choose freely the course they feel called to pursue.

The influence of the entrance of the first medical woman had an effect on all other professions. Her influence on her dear friend, Florence Nightingale, was no doubt, a stimulus in the great achievement for nurses in the face of bitter opposition.

To commemorate the success of her entrance into medical school seems as fitting as to celebrate her graduation. Both events were epoch making.

It is well that all women who have been benefitted by the open door remember the memorials which shall pay tribute to the sacrifices made by this determined, spiritual, selfless woman, Elizabeth Blackwell.

The Library Committee calls attention to the Centennial of her entrance into Medical School November 7, 1847. The New York Infirmary Building Fund will benefit by the centennial of the graduation in 1949.

Mabel E. Gardner

PROGRAM MID-YEAR BOARD MEETING

December 6-7, 1947
Hotel Netherland Plaza
Cincinnati, Ohio

December 6

9:00 A.M.—Registration.
10:00-12:00 A.M.—Business Meeting.
12:30 P.M.—Luncheon, Netherland Plaza Hotel.
2:00-5:30 P.M.—Business Meeting.
7:00 P.M.—Dinner Netherland Plaza Hotel.
(Program to be announced)

December 7

9:00 A.M.—Business Meeting.
11:00 A.M.—Drive. The home of Elizabeth Blackwell and other points of interest shown.
12:00 P.M.—Luncheon at Cincinnati Country Club.
3:00 P.M.—Tea. Compliments of Dr. Aurelia McIntyre.

Hotel Netherland Plaza will have room accommodations for you. Please make your reservation early and state when asking for it that you will be attending the A.M.W.A.

The committee on local arrangements will be ready with any help they can give you. They will appreciate your reservation in advance for the luncheons and dinner.

Dec. 6—Luncheon $2.50, dinner $3.00.

Dec. 7—Luncheon $3.00.

Esther Marting, M.D.
Chairman, Committee on Arrangements
Connors Landing, New Richmond, Ohio

Officers, Committee Chairmen, Directors, and Branch Delegates:

Please have your reports sent in triplicate to Dr. Mabel E. Gardner, President, 129 S. Main Street, Middletown, Ohio, by November 14, so that they may be reviewed by the Reference Committee before the meeting.

Members:

Please send all resolutions and items for discussion to Dr. Gardner by November 14.

SPECIAL NOTICE

It has been reported by Dr. Clara Raven, who was serving as a Major in the hospital in Honolulu, that she has been suddenly informed by telegram that all women physicians in the service are to be separated at once. She was ordered home immediately.

Inquiry has been made of Surgeon General Bliss as to the accuracy of this report and the cause for such action.

—Mabel E. Gardner

NEW LIFE MEMBERS

*228—**Ruth Aleman, M.D.**, New Orleans, La.
*229—**Ruth E. Church, M.D.**, Savanna, Ill.

NEW ACTIVE MEMBERS

CALIFORNIA

Marguerite Lewis Foulk, M.D.—1234 South Sycamore Ave., Los Angeles, Calif. M.D., Loyola University, 1941. Member of AMA, County Medical. Specialty: Anesthesia. Endorsed by Drs. Antoinette Le Marquis, Elizabeth Mason-Hohl.

DISTRICT OF COLUMBIA

Eleanor L. Makel, M.D.—4101 Minnesota Ave., N.E., Washington 19, D. C. M.D., Meharry, 1943. Member of County Medical. Specialty: Internal Medicine.

MARYLAND

Mary L. Hayleck, M.D.—229 East 33rd St., Baltimore 18, Md. M.D., University of Maryland, 1938. Member of Baltimore City Society. Specialty: Pediatrics. Endorsed by Drs. Eleanor Scott, M. L. Small.

MASSACHUSETTS

Emma M. Varnerin, M.D.—82 Broadway, Taunton, Mass. M.D., Boston University, 1942. Member of County Medical. Specialty: General practice and Obstetrics. Endorsed by Drs. Ann Manton, K. S. Snow.

NEW YORK

Florence Brent, M.D.—69 Remsen St., Brooklyn 2, N. Y. M.D., University of Alberta, Canada, 1942. Member of AMA, County Medical. Specialty: Obstetrics and Gynecology.

Meta F. Mueller, M.D.—225 East 79th St., New York 21, N. Y. M.D., Germany, 1924. Member AMA, County Medical. Specialty: Ophthalmology. Endorsed by Olga Sitchevska, Ludmilla F. Brown.

PENNSYLVANIA

Barbara McMullen Sachs, M.D.—Woman's Hospital of Philadelphia, Philadelphia, Pa. M.D., George Washington, 1942. Specialty: Surgery (in Residency at present). Endorsed by Dr. Elizabeth S. Kahler.

WASHINGTON

Eleanor Crim, M.D.—Mt. Vernon, Wash. M.D., University of Minnesota, 1923. Member of AMA, County Medical.

WISCONSIN

Etheldred L. Schafer, M.D.—Jackson Clinic, 16 South Henry St., Madison 3, Wisconsin. M.D., University of Illinois, 1943. Specialty: Pathology. Endorsed by Carroll L. Birch, M.D. and Eslie Hartman, M.D.

NEW ASSOCIATE MEMBERS

CANADA

Agnes K. Moffat, M.D.—327 Charlotte St., Peterborough, Ontario, Canada. M.D., McGill, 1931. Member of County Medical. Specialty: Pediatrics and Anaesthesia. Doctor Moffat is President of the Federation of Medical Women of Canada.

NOTICE TO MEMBERS

Will each member give careful consideration to the topics suggested for the 1950 Congress of the Medical Women's International Association (as published in the September **Journal of the A.M.W.A.**, Pp. 413-414) and indicate her choice to the Branch delegate or to one of the officers so that a decision may be made by our Association at the Board Meeting in December.

Helen F. Schrack,
National Corresponding Secretary
to the M.W.I.A.

AMERICAN MEDICAL WOMEN'S ASSOCIATION, INC.

APPLICATION FOR MEMBERSHIP

☐ Active. $5.00* ☐ Associate. No dues ☐ Life $100. ** ($50 in two payments)
(Active, associate, and life members receive the official publication. Active and life members receive membership in Medical Women's International Association.)

Dr. .....
(Please print name as you wish it to appear in Year Book)

Address .....

.....

Medical School ..... Year of Graduation .....

Other Degrees .....

Licensed in County ..... State .....

Member County Society — Yes ☐ No ☐ Fellow A. M. A. — Yes ☐ No ☐

Specialty ..... Specialty Board — Yes ☐ No ☐

Place of birth—City ..... State ..... Single; Married; Widow .....

Date of Application ..... Signature .....

Endorsed by *(No endorsers necessary if applicant is a member of a County or State Medical Society)*

1 ..... M.D., Member AMWA

2 ..... M.D., Member AMWA

NOTE: Make check payable to American Medical Women's Association, Inc.
Mail this blank and check to Treasurer, MARY RIGGS NOBLE, M.D., Bowmansdale, Pennsylvania

*Effective January 1, 1948. Dues for 1947 are $3.00.
**Effective January 1, 1948. Life membership for 1947 is $50 ($25 in two payments).

Opportunities for Medical Women

Opportunities for Women in Medical Mission Work

ONE HARDLY NEEDS to stress the fact that there is a great need for women general physicians and surgeons, as well as specialists in the various branches of medicine and surgery, in all the areas of the world where the Protestant Church is carrying on organized medical work. At the moment there are openings waiting to be filled in Africa, China, India, the Philippines and Iran. Most of these calls are from general hospitals where doctors are needed to take charge of the women's departments of the institutions.

As the prejudices of backward peoples regarding men doctors caring for their women folk gradually breaks down, many hospitals which were formerly conducted entirely for and by women are being generalized, with the development of men's and women's departments. By the same token men's hospitals are rapidly developing services for women patients, and calling for women doctors to take charge of them.

Most mission hospitals are located in fairly large towns—ranging from 10,000 to 300,000 population. The number of beds varies from 40 to 150. Usually there are two or three missionary families in the station.

There are eight medical colleges in India and China conducted by church bodies. Almost all of them are interdenominational union institutions which are fairly well equipped but inadequately staffed for the tremendous clinical and educational demands that are made on them. These institutions are calling for men and women who have specialized in the preclinical sciences—physiology, pharmacology, biochemistry—as well as for pediatricians, internists, gynecologists, obstetricians and other specialists. There are few more challenging careers in the world than those offered by these union Christian medical colleges as they attempt to meet the overwhelming need of training doctors and nurses for service to their people.

Most of these colleges do not require specialists boards certificates for appointment. However, as these qualifications are increasingly recognized overseas more of the faculty appointees are securing them. These institutions are all affiliated with accredited local universities.

For most general medical missionaries at least a one-year surgical residency is considered highly desirable.

There are few professional careers open to unmarried women which bring to the worker the deep satisfaction and happiness that is so universally the experience of the medical missionary, whose clientele is large and needy and its individual members deeply appreciative.

The salaries paid to missionaries appear ridiculously low to those who are accustomed to the salary scales in America. An unmarried missionary receives about $80.00 a month. However, with the provision of comfortable quarters and various allowances this enables one to enjoy a fairly high level of living. All the foreign mission boards have arrangements for retirement allowances.

The first term of service in most of the countries of the Orient is usually 5½ years, and in Africa 3 years. Subsequent terms range from 6 to 7½ years. Furloughs in America usually include two summers—a period of 15 months. A great majority of medical missionaries devote a large portion of their furloughs to advanced studies and experience.

Since most of the appointments are made by the denominational mission boards there is a definite preference expressed for candidates who are members of the church of the appointing body. Although professional duties are their chief concern candidates should be prepared to express their Christian faith not only by a quality of service which recognizes the dignity of human personality, but also by participating in the life of the church on the field and in the informal religious activities of the hospital.

Those who are interested in the possibilities of Christian medical service overseas should communicate with the secretary of their church board of missions, or with the interdenominational Christian Medical Council for Overseas Work, 156 Fifth Avenue, New York 10, N. Y.

DOUGLAS N. FORMAN, M.D., *Secretary*
Christian Medical Council for
Overseas Work

OPPORTUNITIES

Dr. Ione Pinney notifies us that there are vacancies as Senior Physician and Surgeon on the staffs of some state institutions in California. Applicants must be citizens of the United States but need not be residents of California; however candidates who are successful in the examinations must secure a license to practice in California before

they can be considered for appointment. Salaries range from $481 to $584. Requests for further information and for application blanks should be made to California State Personnel Board, 1015 L Street, Sacramento, Calif.

* * *

Wanted: Woman resident physician. Salary $4080 a year and maintenance. Prerequisites: Grade A Medical School, rotating internship. Excellent opporunity for treating general illnesses and management of a venereal clinic, prenatal clinic. Small hospital, local consultants. Write, Dr. Miriam Van Waters, Superintendent, Reformatory for Women, Framingham, Mass.

* * *

The American College of Physicians announces that a limited number of Fellowships in Medicine will be available from July 1, 1948 to June 30, 1949. These fellowships are designed to provide an opportunity for research training either in the basic medical sciences or in the application of these sciences to clinical investigation. They are for the benefit of physicians who are in the early stages of their preparation for a teaching and investigative career in Internal Medicine. The stipend will be from $2,200 to $3,000. Application forms may be obtained from The American College of Physicians, 4200 Pine St., Philadelphia 4, Pa.

* * *

Mississippi needs physicians for medical directors, county health departments and staff board of health, as well as for practice in rural areas. Doctors must be eligible for license in state and meet minimum license requirements. If interested in further details, contact Felix Underwood, M.D., State Health Officer, Mississippi State Board of Health, Old Capitol Building, Jackson, Mississippi.

* * *

Bryn Mawr College is to establish the Anna Howard Shaw scholarship to be awarded to a graduate wishing to study medicine. The scholarship was established by income from a $160,000 bequest in the will of Dr. Linda B. Lange, Philadelphi, who died April 24.

UNITED NATIONS WORLD HEALTH ORGANIZATION

Progress in mankind's age-old struggle against disease was cited by the World Health Organization Interim Commission in a report marking completion on July 22, 1947, of its first year of operation.

The report called attention to WHO's activities in a world-wide epidemiological information and notification service and to its field missions in China, Ethiopia, and Greece. Education of health personnel was advanced through fellowships to some 200 physicians and nurses from countries all over the globe so that they might study abroad to bring their medical or public health backgrounds up to date. "Planning board" studies for future attacks on global health problems have been undertaken in numerous fields.

The WHO Constitution was signed by 61 nations on 22 July 1946, and the Interim Commission held its first sessions 19-23 July. When the 26th United Nations member ratifies the Constitution, the Interim Commission is required to call a World Health Assembly within six months to establish a permanent agency.

Dr. Brock Chisholm, WHO executive secretary, summarized the accomplishments of the Interim Commission during its first year as follows:

1. The numerous technical responsibilities of the Health Organization of the League of Nations, the Office international d'Hygiene publique, and the United National Relief and Rehabilitation Administration, including field services in China, Ethiopia, and Greece, and a world-wide epidemiological information and notification service re-activated on a global basis, were merged.

2. Ten expert committees specializing in various technical, medical, and public health activities have been organized, and four already have met.

3. A world-wide program of fellowships, with $500,000 earmarked, is making it possible for an eventual total of some 200 candidates to undertake special studies. While most of the fellowships will become effective for the fall academic term in medical schools in various parts of the world, a substantial number already have begun their studies. Countries benefiting under the fellowship program include: Austria, Byelorussia, China, Czechoslovakia, Finland, Greece, Hungary, Italy, Korea, Philippines, Poland, Ukraine, and Yugoslavia.

4. Special studies have been undertaken in venereal disease, infant mortality, and biological standardization. These will provide a basis for future planning in these activities.

5. A program of co-operative relationships is under way, with joint committees being set up with Food and Agriculture Organization and assistance being extended to other specialized agencies of the United Nations.

6. A technical publications program covering epidemiology, health legislation, and the work of expert committees and related matters already has been instituted.

7. Preparations for the World Health Assembly have advanced satisfactorily. Possible sites and the time of this assembly will be discussed at the fourth session of the Interim Commission in Geneva, Switzerland, 30 August to 13 September, 1947.

BY ALICE BARTLETT
AND CARROLL BIRCH

A Medical

1 Amy Stokes Barton, a pioneer woman ophthalmologist, was born in Camden County, New Jersey, October 1, 1841. She lectured on ophthalmology and was clinical professor of ophthalmology at the Woman's Medical College of Pennsylvania. Dr. Barton collected the money for and founded a dispensary in 1895 at 1212 South Third Street, Philadelphia. It is called the Amy S. Barton Dispensary.

2 On October 2, 1896, a coin was shown by radiography to be sticking in the esophagus of a boy who had been for more than a year treated by specialists for tuberculosis of the lung.
Birthday greetings to Dr. Eliza Mosher, an Honorary President of the American Medical Women's Association.

3 On October 3, 1940, the *British Medical Journal* published its centennial issue. The *Journal* first appeared October 3, 1840, as the *Provincial Medical and Surgical Journal.*
On October 3, 1899, the London School of Tropical Medicine officially opened.

4 The Chicago College of Physicians and Surgeons was incorporated on October 4, 1881.

5 The first meeting of the Chicago Council of Medical Women took place October 5, 1928, at the Medical and Dental Arts Building, Chicago, Ill.
Edward Livingston Trudeau was born on October 5, 1848. He was a pioneer in the fight against Tuberculosis.

6 The first written descriptions of Bacteria are in Leuwenhoek's letter to the Royal Society of London dated October 6, 1676.

7 Dr. George Hayward did the second surgical operation ever done upon a patient under the influence of ether, the removal of a fatty tumor of the shoulder. This was done October 7, 1846.

8 Concealed Lithotome was invented by Frere Come. The first patient upon whom the instrument was tried (on October 8, 1748) was a dealer in lime, sixty years of age and in rather delicate health. In less than three weeks after the operation he was entirely cured.
Hedenus performed total thyroidectomy for goiter on October 8, 1800.

9 Northwestern University Medical School began its first term October 9, 1859.
On October 9, 1676, Leuwenhoek stated that he had discovered living creatures (animalcula) in rain water, which had stood in an earthern pot for a few days. These little animals appeared to him 10,000 times smaller than the water fleas or water lice observed by Swannerdam.

10 Otis Frederick Manson was born in Richmond, Virginia on October 10, 1822. He was the first American writer to describe "Puerperal Malarial Fever."

11 Catherine VI of Russia was vaccinated for small pox on October 11, 1768.
On October 11, 1851, Dr. James Crochett Bradbury performed that most formidable operation in surgery —the amputation at the hip joint for osteo sarcoma of the femur, the fourth time it had ever been performed successfully in this country.
Miller employed cocaine in eye surgery on October 11, 1884.

12 The Female College of Pennsylvania was opened October 12, 1850.
The London School of Medicine for Women was opened on October 12, 1874. It was founded by Dr. Sophia Jex-Blake.

13 Rudolph Virchow, a German physiologist and founder of cellular pathology, was born October 13, 1821.

14 William Harvey was appointed to the Hospital Staff of St. Bartholemews on October 14, 1609.
The certificate of incorporation for the College of Medicine of the University of Illinois was granted to Drs. Jackson, McWilliams Steele, St. John, and Earl on October 14, 1881.

15 The form of the certificate of the National Board of Medical Examiners was approved on October 15, 1915, and its official seal adopted.

16 On October 16, 1846, W. T. G. Morton gave a public demonstration of the use of Ether anaesthesia at the Massachusetts General Hospital.

Calendar FOR OCTOBER

17 According to Dr. Leon, the first American medical journal was "El Mercurio Volante" (Mexico, October 17, 1772).

On October 17, 1608, James Metius of Alkmaar petitioned the Assembly of the States for the exclusive right to sell an apparatus of his invention to make distant bodies appear larger and more distinct.

18 On October 18, 1645 Daniel Whistler read his thesis, "De morbo puerili anglorum quem patrio idiomati indigenae vocant," the first written description of Rickets.

The first reports of the use of cocaine in this country were made by C. R. Agnew, W. R. Moore, and J. L. Minor.

19 John Crerar, an American philanthropist, was born in New York City about 1828. He bestowed large sums upon charitable undertakings, and in his will, left $2,500,000 to found the John Crerar Library in Chicago. He died October 19, 1889.

20 The Prime Minister of Canada opened a large new Women's Hospital in Toronto on October 20, 1934, which is staffed entirely by medical women.

21 On October 21, 1842, Dr. William H. Kennicott placed an advertisement in the Chicago Express announcing his partnership with Dr. Bradley "so that the citizens of Chicago will be able to avail themselves of the well established skill of Dr. Bradley during the absence of Dr. Kennicott to the country."

22 Stephen Moulton Babcock was born October 22, 1843. His best known service was the invention in 1890 of the milk test for ascertaining the amount of fat in milk and cream.

23 Bethlehem, long associated with lunacy, was founded October 23, 1247, by Simon Fitz Mary, a citizen and Sheriff of London. The site now is occupied by the Liverpool Street Railway Station.

24 On October 24, 1882, the Bacillus tuberculosis was discovered by Robert Koch.

25 On October 25, 1932, the Nobel Prize for medicine was awarded to Doctors F. G. Banting and J. J. MacLeod for their work in connection with insulin.

26 Pope Nicholas IV chartered the University of Montpellier as a studium general on October 26, 1289.

Norman W. Kinsley was born at Stockholm, New York, on October 26, 1829. He was a graduate of the Baltimore College of Dental Surgery. In 1859, he treated a case of cleft palate successfully, which drew favorable comment from far and wide, for which he was awarded a gold medal by the American Dental Convention in 1863. He is accredited the "Father of Modern Orthodontia," having written the first book ever published on that subject. In 1865, he founded the New York College of Dentistry, becoming dean of the faculty and professor of dental art and mechanism. He died February 20, 1913.

27 Servetus was burnt alive at the instigation of Calvin on October 27, 1553. Servetus, a physician associated with Vesalius, published "Servetus Christianismi Restituto," which contains the first clear description of the pulmonary circulation.

28 On October 28, 1868, The Women's Medical College of the New York Infirmary opened. The first woman to register was Sophia Jex-Blake of England.

Harvard College was founded by Act of General Court of Massachusetts October 28, 1636.

Urban VI chartered the University of Heidelburg as a "studium generale" on October 23, and the University opened October 28, 1386.

29 Dr. Thomas Bond was justly celebrated as a lithotomist. He probably performed the first operation of its kind in America on October 29, 1756, in the Pennsylvania Hospital.

Dr. Elizabeth Burr Thelberg, 11th President of the American Medical Women's Association (1927-1928), was born October 29, 1860.

30 On October 30, 1903, the Tuberculosis Aid and Education Association, later rechristened the Cambridge Anti-Tuberculosis Association, was organized.

31 On October 31, 1794, John Dalton described color blindness.

The Hospital and Dispensary of the Alumnae of the Woman's Medical College of Pennsylvania was opened to patients October 31, 1895.

BOOK REVIEWS

(EDITOR'S NOTE:—*These reviews represent the individual opinions of the reviewers and not necessarily those of the members of the Editorial Board of this* JOURNAL.)

EXPERIENCES WITH FOLIC ACID. Tom D. Spies, M.D., Associate Professor of Medicine, University of Cincinnati School of Medicine; Director of the Nutrition Clinic, Hillman Hospital, Birmingham, Alabama. 110 pp. with colored plates and illustrations. Price, $3.75. Year Book Publishers, Inc., Chicago. 1947.

Dr. Spies is a leading authority on problems of nutrition and vitamin deficiencies. In this book he has confined himself to one aspect only of his many studies and experiments: the use of folic acid in the treatment of macrocytic anemia.

A series of carefully controlled cases was studied in the clinics of the Cincinnati General Hospital, the Nutrition Clinic of Hillman Hospital, Birmingham, the University of Havana, Cuba, and the School of Tropical Medicine, San Juan, Puerto Rico. Those patients admitted to the clinics in the United States were almost entirely cases of pernicious anemia, while in the tropics an equally high percentage suffered from sprue. The criteria for admission were the same, as were the diagnostic laboratory procedures. Strict dietary regulations were established, so as to prevent any possible hemopoietic response from food.

In every case there was a satisfactory response to folic acid therapy, and in many cases the response was striking and dramatic.

The author goes into some details as to the chemistry of folic acid itself and its related compounds. The true nature of folic acid and its action in erythrogenesis is not clearly understood. It is part of the vitamin family, and probably of an enzyme system. It is found in liver, yet far larger doses of folic acid than of liver extract are needed to produce the same effect. Spies believes that possibly folic acid conjugates are stored in the body, and that liver extract liberates them so that they act on the bone marrow cells.

Folic acid is not a complete substitute for liver therapy, as it does not protect against neural disturbances. Until this factor for preservation of central and peripheral systems is found and administered with folic acid, it should probably not be used in the routine treatment of pernicious anemia. But it is a satisfactory method of producing blood regeneration and maintaining blood levels in macrocytic anemias.

Folic acid is of no value in the treatment of leukemia, aplastic anemia, hemolytic anemia, or leukopenic states. Dr. Spies believes, however, that the discovery of this agent and its effect on the bone marrow opens up a fertile field for clinical investigation and redefinition of the macrocytic anemias.

—Adelaide Romaine, M.D.

TEEN DAYS: A Book for Boys and Girls. By Frances Bruce Strain. pp. 183. $2.75. D. Appleton-Century Company, New York. 1947.

This is the latest in a series of books on sex education by the same author. Being Born was written for young children; Love at the Threshold, for young men and women; and now comes Teen Days for the adolescent. The early chapters are devoted to answering all the perplexing questions that boys and girls of teen age might have about the physiological changes occurring at puberty. There are excellent explanations of the reproductive organs and functions of both sexes. Nocturnal emissions, masturbation, menstruation, intercourse, pregnancy, and delivery are all explained in a manner that should be most acceptable both to young readers and to their parents.

The second part of the book is devoted to the personal relationships of the teen-ager. There is a sensible discussion on attitudes toward money, school, sports, parties, and manners. Included in this discussion is a good daily schedule which should prove helpful. The chapters on dating and love making are perhaps the best in the book. Parents who read them will have better understanding of their children's love life, and the teen-ager will have better understanding of himself and better control of his actions.

Criticism might be directed toward some of the statements pertaining to endocrinology, such as those on the use of pituitrin to stimulate growth. However, these statements are of little significance compared to the over-all worth of the book.

Teen Days was written for teen-agers and their parents, but it would profit all educators, social workers, and doctors interested in the adolescent to read this little volume.

—Nina R. Lief, M.D.

SYNOPSIS OF OPERATIVE SURGERY. By H. E. Mobley, M.D., F.A.C.S., Chief of Surgery at St. Anthony's Hospital, Morrillton, Arkansas. 2nd edition. 416 pp., 383 illustrations. The C. V. Mosby Company, St. Louis. 1947. $6.00.

Dr Mobley has done a comprehensive piece of work, giving in 400 small pages condensed and precise descriptions of procedures for all varieties of operations. There are chapters on anesthesia, postoperative care, types of incisions, knot tying, and suturing, and a very good one on general consideration of surgical technique. All the chapters are well and clearly illustrated. Of necessity, a manual of this type must be limited to the principles of a procedure, rather than give the variations needed to fit individual cases. It cannot take the place of a textbook, as it can be used only for quick reference for doctors already trained in surgery. Dr. Mobley has done a good job in assembling so much material in such small space and with such accuracy.

—Margaret Stanley-Brown, M.D.

UTEROTUBAL INSUFFLATION. By I. C. Rubin, M.D., F.A.C.S., Clinical Professor of Gynecology, College of Physicians and Surgeons, Columbia University; Consulting Gynecologist, Mount Sinai Hospital; Visiting Gynecologist, Montefiore Hospital; Consulting Gynecologist, Beth Israel Hospital, New York. 453 pp., 159 illustrations. $10.00. The C. V. Mosby Company, St. Louis. 1947.

This is a complete and extensive monograph, devoted entirely to the origin, physiology, and pathol-

ogy of the fallopian tubes. The first two chapters especially are excellently written. They deal with the development and the pathology of the tubes. Anyone working with sterility patients or in gynecological surgery would do well to read these chapters so as to review and refresh the memory as to the functions and diseases of the fallopian tubes. The chapter devoted to the normal patency is of extreme value, giving a good working knowledge of the subject.

The author presents a clear and detailed picture of the technique of uterotubal insufflation. For those doing a great deal of sterility work there is a wealth of material as to the causes, diagnosis, and treatment, including surgical treatment of tubal adhesions and occlusions. This is an excellent review of factors which aid in overcoming the sterility problem, both in the male and in the female.

There is an interesting comparison of the value of insufflation with that of lipiodol injection. Although the author prefers, and of course feels that uterotubal insufflation by gas is the better method, the reviewer personally prefers, if only one attempt is to be made, to adhere to the uterosalpingogram, believing that it tells more of the contour, congenital deformities, and presence of other masses in the pelvis.

The author has brought up also an interesting point in the treatment of dysmenorrhea by uterotubal insufflation. This could, of course, be attempted only in the married woman. It is a therepeutic treatment new to this reviewer, and seems worth consideration in the future.

The chapter on pneumo-peritoneum and the diagnosis of gynecological conditions is also of interest to those doing a great deal of pelvic diagnosis.

The reference library is comprehensive and certainly fulfills the needs in the busy life of a gynecologist. This is, indeed, an excellent monograph, covering the entire subject in complete detail.

—Asta J. Wittner, M.D.

DISEASES OF THE NOSE AND THROAT. Charles J. Imperatori, M.D., F.A.C.S. and Heman J. Burman, M.D., F.A.C.S. New (3rd) Edition, 576 pp. 480 illustrations. 1947. J. B. Lippincott Co., Philadelphia, London, Montreal. $12.00.

The new Third Edition of "Diseases of the Nose and Throat" by Imperatori and Burman is designed for practical use in diagnosis and treatment.

The general classification system and the outline form of the material is much the same as in the previous edition. However, the size of the page and the type has been increased, which makes for easier reference. The content of the text is further clarified by abundant very fine plates and diagrams, many of them new. These diagrams are particularly helpful in the sections dealing with the larnyx.

The chapter on Physical and Radiation Therapy has been rewritten. A page dealing with vitamin deficiencies has been added to the section on General Diseases. Dr. Frederick M. Law wrote the chapter on Roentgen Examination of the Nasal Accessory Sinuses, and at the end of the book is a section on Laboratory Aids by Dr. Andrew A. Eggston.

The entire book is outstanding for its concise presentation, quick accessibility, and easy reading, making it valuable for reference in practice or in teaching.

—Geraldine E. Watson, M.D.

TEXTBOOK OF ANATOMY AND PHYSIOLOGY. By Catherine Parker Anthony, B.A., R.N., Instructor of Anatomy and Physiology, Lutheran Hospital, Cleveland, Ohio. 2nd edition. Fabrikoid. 542 pp., with 184 illustrations. $3.75. The C. V. Mosby Company, St. Louis. 1946.

The learning process is always aided by the inclusion of illustrations, correlations, and precision methods. The author in this, the second edition of her Textbook of Anatomy and Physiology, has incorporated her scientific knowledge and learning aids in such a way as to make the book commendable and well worth investigating. Through the use of clearly defined illustrations, anatomical perplexities are brought within the scope of the student nurse. At the same time, an understandable correlation between anatomy and physiology serves as a learning impetus to the young student.

The student nurse who learns from the start that the anatomical structures which comprise the human body have specific reasons for being is the student who will make the wiser and more efficient nurse.

By means of simple, basic outlines and definitions, the text prepares the way for an integrated knowledge of anatomy and physiology. The additional pamphlets of questions and answers indicate the result of much thought and suggest the potentiality of better teaching and better learning.

—Pearl S. Parker, R.N., B.S.

GYNECOLOGY: WITH A SECTION ON FEMALE UROLOGY. By Lawrence R. Wharton, Ph.B., M.D., Assistant Professor of Gynecology, The Johns Hopkins Medical School, and Assistant Attending Gynecologist, The Johns Hopkins Hospital. Part I. Gynecology, pp. 5-760. Part II. Urology, pp. 763-1000. Second edition. 1027 pp., with 479 illustrations. W. B. Saunders Company, Philadelphia and London, 1947. Price $10.00

In his preface to this second edition the author notes the rewriting of entire sections, including the sections on Embryology and Congenital Malformations, in order to bring the whole subject up to date. In the urological section a chapter on Water Cystocopy by Dr. Charles L. Prince of the Johns Hopkins Medical School, has been added. The technique of ureterotomy for ureteral stone is presented in greater detail, and a separate chapter is devoted to the female urethra.

This extremely interesting and clearly written book should be on every general practitioner's shelf for reference. It presents a sound basis, quickly and easily available, for making a diagnosis in the pathology of the female pelvis. Not only is each subject thoroughly treated as to most recent knowledge and therapeutic techniques, but there is a brief historical sketch where history is pertinent, as in the case of gonorrhea and of genital tuberculosis. An adequate list of references is given in connection with all the subjects treated.

As might be expected, the section on Urology is adjuvant to that on Gynecology and is of greater interest to the gynecologist than it is to the urologist. Conversely, the section on Gynecology is most helpful to the urologist. It is encouraging to have the female urethra, that unfailing source of morbidity in women, given due emphasis in a separate chapter. It is, I think, fair to assume that in the future greater importance will be given this subject in general urologic practice. The chapters on the pyelitis of pregnancy and on the relationships between the urinary and the reproductive organs in women are of particular interest to the general practitioner as well as to the specialist.

—Mary E. C. MacGregor, M.D.

Current Publications of Women in Medicine

Breitwieser, E. Ruth: Electrocardiographic observations in chronic cholecystitis before and after surgery. Am. J. M. Sc. *213:* 598-602, May 1947.

(From the Gastro-Intestinal Section and Edward B. Robinette Foundation, Medical Clinic, University of Pennsylvania Hospital.)

A report of preoperative and postoperative electrocardiographic tracings in 17 cases of calculous cholecystitis and 1 case of non-calculous cholecystitis, all of whom had abnormal preoperative tracings.

Moss, Emma S.: The practical handling of bacteriology by the clinical pathologist. South. M. J. *40:* 427-432, May 1947.

(From the Department of Pathology, Charity Hospital of Louisiana, New Orleans, and the Department of Pathology and Bacteriology, Louisiana State University School of Medicine.)

The routine methods employed in the Division of Bacteriology of the Department of Pathology of Charity Hospital are presented. The author considers that the best interest of the patient and the clinician will be served when the request for a bacteriologic study is undertaken by the pathologist on a consultation basis.

Yeager, Leona B.; Rhoads, P. S., and Freeman, S.: Fibrinogen deficiency: clinical features and probable etiologic factors. J. Lab. & Clin. Med. *32:* 502-507, May 1947.

(From Northwestern University Medical School and Wesley Memorial Hospital, Chicago.)

A detailed report of a case in which fibrinogenopenia was proved to be an important factor in the production of a severe hemorrhagic state.

Kleinert, Margaret Noyes: Premedication in tonsillectomies in children under six years old. Ann. Otol., Rhin. & Laryng. *56:* 168-174, March 1947.

(From the New England Hospital for Women and Children, Roxbury, Mass.)

A review of cases of 150 children under six years of age was made in order to evaluate the advantages and disadvantages obtained in administering preanesthetic sedation such as the barbiturates, and in substituting scopolamine for atropine previous to tonsil operations.

Anderson, Dorothy H.: Celiac syndrome. VI. The relationship of celiac disease, starch intolerance, and steatorrhea. J. Pediat. *30:* 564-582, May, 1947.

(From the Departments of Pediatrics and Pathology College of Physicians and Surgeons, Columbia University, and Babies Hospital.)

For some years the author and her co-workers have been studying chronic malnutrition and chronic indigestion in infants and children, with special reference to those patients presenting the celiac syndrome. This report represents a summary of the present status of the investigation and an incomplete report of the data on which their concept of celiac disease is based.

Talbot, N. B.; **Sobel, Edna H.; Burke, Bertha S.,** et al: Dwarfism in healthy children: its possible relation to emotional, nutritional and endocrine disturbances. New England. J. Med. *236:* 783-793, May 22, 1947.

(From the Departments of Pediatrics and Psychiatry, Harvard Medical School; the Department of Maternal and Child Health, Harvard School of Public Health, and the Children's Medical Service, Massachusetts General Hospital.)

In the past few years more than 100 abnormally short children have been encountered in the pediatric clinic of the Massachusetts General Hospital. Of these a group of 28 boys and 23 girls showed no other obvious physical or constitutional abnormality. This paper is the result of attempts to discover and eradicate the cause of stunted growth in such patients.

Heller, E. L.; **Lewisohn, Marjorie G.,** and Palin, W. E.: Aleukemic myelosis: chronic nonleukemic myelosis, agnogenic myeloid metaplasia, osteosclerosis, leukoerythroblastic anemia, and synonymous designations. Am. J. Path. *23:* 367-375, May, 1947

(From the Department of Pathology, University of Pittsburgh, and the Presbyterian Hospital, Pittsburgh.)

The existence of a disease closely related to, or a variant of, myelogenous leukemia has been known for many years. The authors present the evidence forming the basis for their interpretation that the disease is fundamentally leukemic. The uncertainty in the classification of the disease has resulted in a diverse and confusing nomenclature.

Bevans, Margaret, and Taylor, Henry K.: Lesions following the use of ertron in rheumatoid arthritis. Am. J. Path. *23:* 367-375, May, 1947.

(From the Departments of Pathology and Radiology and the Second Medical Division, Goldwater Memorial Hospital, Welfare Island, N. Y.)

Unsupervised use of ertron in a patient suffering from rheumatoid arthritis led to hypercalcemia and calcium deposition in the periarticular and subcutaneous tissues, lungs, heart, and kidneys. The case is of interest because lesions observed at necropsy following the prolonged use of ertron have not previously been described.

Murray, Margaret R., and Stout, A. P.: Distinctive characteristics of the sympathicoblastoma cultivated in vitro: a method for prompt diagnosis. Am. J. Path. *23:* 429-435, May, 1947.

(From the Surgical Pathology Laboratory of the College of Physicians and Surgeons, Columbia University, and the Department of Surgery of the Presbyterian Hospital, N. Y.)

The observations here reported were gleaned in the course of a long term study of the form and behavior of human tumors in vitro, during which eight sympathicoblastomas were investigated. By the use of tissue culture diagnosis can now be made with a high degree of certainty in 24 hours or less.

Rosen, May Sherman, and Rosen, S. H.: Intestinal lipodystrophy of Whipple: report of a case and analysis of the literature. Am. J. Path. *23:* 443-457, May, 1947.

(From the Laboratory Division, Montefiore Hospital, N. Y.)

A case of intestinal lipodystrophy of Whipple is presented and attention is called to the possibility that Whipple's disease may not be a clinical or pathological entity. The earlier literature on the subject is summarized.

Levin, Erwin; **Hamann, Anna,** and Palmer, W. L.: The effect of radiation therapy on the nocturnal gastric secretion in patients with duodenal ulcer. Gastroenterology, *8:* 565-574, May, 1947.

(From Billings Hospital, University of Chicago.)

The fasting nocturnal gastric secretion in 28 patients with uncomplicated duodenal ulcer varied from 550 cc. to 1750 cc., with a free acidity ranging from 18 to 122 clinical units. The effect of radiation was studied during treatment and at varying intervals after treatment.

Bucher, Gladys R.: Uropepsin: a review of the literature and report of some experimental procedures. Gastroenterology, *8:* 627-647, May, 1947.

(From the Department of Physiology, Woman's Medical College of Pennsylvania.)

The presence of uropepsin, a pepsin-like enzyme, in urine has long been known and studied by German physiologists and clinicians, but their findings have never been brought into the English literature. Uropepsin may have important physiological and perhaps clinical implications and it is the purpose of this paper to review the literature and to verify certain of the recorded data, using more modern methods.

McLaughlin, Margaret E.: The physical health of children attending day nurseries. Brit. M. J. *1:* 591;631, May 3;10, 1947.

In 1944-45 an investigation was made under the auspices of the British Medical Women's Federation to obtain data concerning the effect of life in wartime day nurseries on the physical health of children under 5 years. The results of the first part of the investigation were published in the same journal on Aug. 17, 1946. The present report describes the results of the second part of the investigation and is a comparison over a period of 12 months in 1944-45 of a group of children attending Ministry of Health wartime day nurseries in Birmingham with a control group of children living in their own homes.

Sherman, Mary S.: Osteoid osteoma associated with changes in adjacent joint: report of 2 cases. J. Bone & Joint Surg. *29:* 483-490, April, 1947.

(From the University of Chicago, Department of Surgery.)

Among the 33 cases of osteoid osteoma diagnosed at the

University of Chicago are two in which marked changes occurred in major joints. These form the basis of this report.

Zondek, H., and **Wolfsohn, Gerda:** Primary glaucoma and the pituitary diencephalic system. Am. J. Ophth. *30:* 596-600, May, 1947.
(From the Department of Internal Medicine, Biccur Cholim Hospital, Jerusalem, Palestine.)
Among the 22 cases of primary glaucoma studied, 16 gave evidence of disturbances in the pituitary-diencephalic system. The question as to how far pituitary hormones (particularly of the posterior lobe) or pituitary-diencephalic factors are to be held responsible is discussed, and 7 cases are described in detail.

O'Neal, Ruth, and Magath, T. B.: Trichostrongylus infection of human beings: report of 4 cases. Proc. Staff Meet. Mayo Clinic, *22:* 193-198, May 14, 1947.
Because of the paucity of reports of infection of human beings with this parasite in the literature of this country, the authors report 3 cases observed at the Mayo Clinic. Two were boys, aged 5 and 7 years (brothers), and the other a man of 38. In all cases the infection had been acquired in a foreign country.

Morton, Eva: The value of light treatment in the diseases of children. M. Press & Circ. *217:* 415-418, May 14, 1947.
(From the Light Department, Children's Hospital, Plaistow.)
A general review of the conditions in which this form of treatment has been shown to be beneficial.

Morgan, Isabel M.: The role of antibody in experimental poliomyelitis. Am. J. Hyg. *45:* 372-379, May, 1947.
(From the Poliomyelitis Research Center, Department of Epidemiology, Johns Hopkins University, Baltimore.)
Part I deals with reproducibility of endpoint in a mouse neutralization test with Lansing poliomyelitis virus. Part II describes attempts to produce intracerebral immunity in monkeys by vaccination.

LaO, Dolores G. and Trussell, R. E.: Chancroid in women in Manila. Am. J. Syph. *31:* 277-281, May, 1947.
This report is based on work done in the Manila Department of Health and Welfare which operated under the auspices of the United States Army as an emergency measure from March through July, 1945. During this period 8,086 women were examined for the first time in 3 treatment centers. In addition there were 17,599 return visits. A detailed study of the disease was possible in only 60 hospital admissions which form the basis for this report.

Goodall, R. E. and **Flanders, Sarah E.:** Successful primary repair of lacerated Stensen's duct. Surgery, *21:* 865-869, May, 1947.
(From the Second (Cornell) Division of Bellevue Hospital, N. Y.)
After a brief review of the anatomy, the authors present a case of primary suture of the parotid duct and illustrate the success of the procedure by pictures of the patients and sialograms taken 6 months after the operation.

Silveus, Esther, and Adams, Ralph: Benign mediastinal tumors: a report of six cases with analysis of diagnostic criteria and advocation of surgical removal. S. Clin. North America, pp. 596-604, June 1947.
(From the Lahey Clinic, Boston.)
Six cases with the diagnosis proved by operation and pathologic examination are reported as examples of the types of benign mediastinal tumor most often encountered in general practice. Reasons for a policy of early diagnosis and prompt surgical removal are stated.

Busch, Eduard, and **Christensen, Erna:** The three types of glioblastoma. J. Neurosurgery, *4:* 200-220, May 1947.
(From the Department of Neurosurgery, Institute of Pathology, Rigshospitalet, Copenhagen, Denmark.)
In a series of glioblastomas, significant differences are found in macroscopial and microscopial pathology, in age of patients at time of admission, in length of histories, in cerebral localization, and especially in postoperative survival time. The existence of three types of gliomas differing in the above-mentioned aspects is suggested.

Bruch, Hilde, and **Hewlett, Irma:** Psychologic aspects of the medical management of diabetes in children. Psychosomatic Med. *9:* 205-209, May-June 1947.
(From the Department of Pediatrics and Psychiatry, Columbia University College of Physicians and Surgeons, New York.)
Psychological observations on a group of 21 diabetic children have suggested that the family's acceptance of the disease and the way in which the medical regime is followed are indices of the family relationships. A more lenient medical regime would help emotionally disturbed families to accept diabetes with less guilt and anxiety and this would offer the diabetic child a better opportunity for normal personality development.

Sloan, Louise L. (PhD.): Rate of dark adaptation and regional threshold gradient of the dark-adapted eye: physiologic and clinical studies. Am. J. Ophth. *30:* 705-720, June 1947.
(From the Wilmer Ophthalmological Institute of the Johns Hopkins University and Hospital, Baltimore.)
Tests were made to determine the range of variation among normal subjects in (a) the dark-adaptation curve of a single retinal region, and (b) the threshold gradient of the fully dark-adapted eye in the horizontal meridian of the retina. The same tests were given to subjects low in vitamin A. Results suggest that concentric contraction of the visual field occurs frequently in persons with ocular vitamin-A deficiency and probably indicates cone as well as rod involvement.

Barker, Elizabeth G. W., and Milligan, W. L.: In-patient treatment of the maladjusted child. Brit. M. J. *1:* 805-807, June 7, 1947.
(Assistant Physician, St. James' Hospital, Portsmouth, England.)
Since 1940, 125 children have been admitted to St. James' Hospital. Some 80 per cent of these maladjusted children were greatly benefitted by in-patient treatment. Since the majority of these had received previous child guidance treatment as out-patients without any appreciable improvement, it is obvious that there is a great need for in-patient accommodations.

Bartley, Eileen O., and Hunter, Kenneth: Penicillin in surgical treatment of Pasteurella sinusitis. Lancet, *1:* 908-909, June 28, 1947.
(From Queen's University, Belfast.)
In a case of frontal sinus infection with **Pasteurella septica,** the organism was sensitive to penicillin in high concentration. The condition responded to adequate surgical treatment combined with vigorous penicillin therapy.

Hefferman, Angela: Plasmocytoma of pancreas and duodenum causing acute intestinal obstruction. Lancet, *1:* 910, June 28, 1947.
In a case of plasmocytoma (hematogenous myeloma) of the pancreas and duodenum, terminating with acute intestinal obstruction, bony lesions could not be demonstrated during life, but two small tumors were found on the ribs at necropsy. Bence-Jones protein was present in the urine throughout the period of observation.

L'Esperance, Elise S.: The early diagnosis of cancer. Bull. New York Acad. Med. *23:* 394-409, July 1947.
(From the Kate Depew Strang Cancer Prevention Clinics, Memorial Hospital and the New York Infirmary.)
A paper presented before the Graduate Fortnight of the New York Academy of Medicine, describing the part played by cancer prevention clinics in the early diagnosis and ultimate control of cancer, and emphasizing particularly the work done by the clinics of which the author is Director.

Beck, Diana J. K.: Upper parietal meningioma showing Foster Kennedy syndrome. Bristol Med.-Chir. J. *64:* 11-62, (Spring) 1947.
A case report, illustrating the need to interpret the syndrome in the light of other signs and of noting the stage at which the eye symptoms develop.

Melkon, Eliza A., and **Scheidell, Dorothy K.:** Allergic manifestations after the injection treatment of varicose veins. New England J. Med. *236:* 940-942, June 19, 1947.
(From New England Hospital for Women and Children, Boston.)
The purpose of this paper is to report 8 episodes (in 6 patients) of constitutional anaphylactic-like reactions that occurred following the injection of varicose veins with quinine hydrochloride and urethane, sodium morrhuate, and sylnasol. During the same period, 3037 other patients were treated without reactions.

Givener, Isadore, and **Lodyjensky, Catherine:** Ocular findings in 128 juvenile diabetics. New York State J. Med. *47:* 1371-1372, June 15, 1947.
(From Camp NYDA of the New York Diabetes Association.)
In a routine fundoscopic examination of 128 diabetic children, 3 were found to have retinal hemorrhages and 1 a diabetic cataract. Since the importance of retinal hemorrhages in regard to a better evaluation of the case has been emphasized it would seem advisable to examine the eyes of all diabetic patients under a mydriatic.

Ittner, Elizabeth J.: Experiences in infant feeding with the administration of a cereal containing papaya fruit. New York State J. Med. *47:* 1373-1374, June 15, 1947.
(From the Department of Pediatrics, Long Island College Hospital, Brooklyn.)
This study of 751 infants and children indicated that

papaya is a valuable and palatable addition to the cereal introduced into their diet. Beyond the customary effects on general health and weight gain there was almost uniformly good appetite for this type of cereal, virtually no constipation, and no instance of diarrhea, vomiting, or skin eruption.

Webster, Augusta: The Voorhees bag: an analysis of its use in 164 cases. Am. J. Obst. & Gynec. *53:* 957-871, June 1947.

(From the Cook County Hospital and the Department of Obstetrics and Gynecology, Northwestern University Medical School, Chicago.)

This study was undertaken in an effort to evaluate the merits of the Voorhees bag and to determine, if possible, whether or not it has a place in modern obstetrics. The investigation covers a seven-year period, during which 28,000 babies were delivered at the Cook County Hospital. The fact that the hydrostatic bag was used in only 164 cases indicates that it is less used than formerly, but it probably still has a limited place in the obstetric armamentarium.

Florey, M. E. (Lady Florey), Ross, R. W. N. L., and Turton, E. C.: Infection of wounds with gram-negative organisms: clinical manifestations and treatment. Lancet, *1:* 855-861 June 21, 1947.

(From the Radcliffe Penicillin Unit of the Medical Research Council.)

The effect of gram-negative infection has been observed in 63 lacerated wounds, mainly involving bone, and in 10 superficial wounds. Bacteriological and clinical effects of the daily local application of different agents in reducing the infection were noted. Clinical application of these findings showed that use of the sulfonamides, with penicillin when necessary, or use of streptomycin could sterilize persistent sinuses so that they healed rapidly.

Van Hoosen, Bertha: Shock treatment in malignancy. Med. Woman's J. *45:* 37-41, June 1947.

(Professor Emeritus of Obstetrics, Loyola University School of Medicine.)

In 1919, and again in 1921, the author reported in this same journal on the use of emetin hydrochloride in the treatment of malignant disease. Since then she has continued the use of emetin in 5 grain doses with results which she summarizes in the present article. She believes that the most successful results were obtained in patients who were most thoroughly shocked by the toxicity of the dose.

Eliot, Martha M., and **Freedman, Lillian R.:** Four years of the EMIC program. Yale J. Biol. & Med. *19:* 621-635, March 1947.

(From the U. C. Children's Bureau, Washington.)

Historical and statistical account of the work of the Emergency Maternity and Infant Care (EMIC) program.

Greenacre, Phyllis: Vision, headache, and the halo: reactions to stress in the course of superego formation. Psychoanal. Quart. *16:* no. 2, 1947.

(From the New York Hospital and the Department of Psychiatry, Cornell University Medical College, New York.)

The author presents two cases showing the connection between visual shock, headache, and the development of a halo.

Norval, Mildred A.: Relationship of weight and length of infants at birth to the age at which they begin to walk alone. J. Pediat. *30:* 676-678, June 1947.

The data utilized were obtained on 194 babies. No significant correlation was found between age at which they started walking and weight at birth considered by itself. In view of the rather small number of cases studied the results cannot be considered definitive until corroborated with observations in a larger number of cases.

Talmadge, Janet, and Berman, Benjamin: Congenital thrombocytopenic purpura. J. Pediat. *30:* 691-695, June 1947.

(From the Pediatric Service, St. Louis City Hospital.)

The authors observed thrombocytopenic purpura as a familial condition in three successive children of a mother previously splenectomized from thrombocytopenic purpura. Gradual spontaneous recovery occurred in all these children and there has been no recurrence.

Wuerthele-Caspe, Virginia, Brodkin, Eva, and **Mermod, Camille:** Etiology of scleroderma: a preliminary clinical report. J. M. Soc. New Jersey, *44:* 256-259, July 1947.

An acid-fast bacillus was found in the sputum, blood, and nasal and subcutaneous tissue smears in five cases of scleroderma examined bacteriologically. All patients treated with promin have shown definite, responsive changes. The bacillus has been tentatively named **Sclerobacillus Wuerthele-Caspe.** Further bacteriologic and therapeutic studies are now in progress.

Drane, Miriam M.: Skin manifestations associated with intestinal infestations. J. Florida M. A. *34:* 40-41, July 1947.

Cases are presented of disorders of the skin, such as pellagra, alopecia areata, urticaria, toxic dermatoses, and eczematous dermatoses, associated with intestinal infestation which have responded to treatment consisting of eliminating the parasites and giving supportive measures.

Weekes, Claire: Iodine treatment of monilial infection of the vagina. M. J. Australia, *1:* 636-638, May 24, 1947.

From the Rachel Forster Hospital, Redfern, Sydney, Australia.)

Iodine was used locally twice a week for treatment of monilial infection of the vagina in 50 cases during the months February to September 1946, inclusive. It was found to be the quickest and most effective treatment so far used and is now employed at the hospital almost exclusively. Cures were obtained in 38 of the 50 cases.

Parker, Robert F., **Gilson, Betty,** and Joelson, James J.: Streptomycin: clinical results in 37 cases. Ohio State M. J. *43:* 734-735, July 1947.

(From the Departments of Medicine and Surgery, Lakeside Hospital, and the E. H. Cushing Laboratory of Experimental Medicine, Cleveland.)

The 37 cases include 2 cases of brucellosis, 2 colon bacillus bacteremias, and 33 cases of genito-urinary infection. The results of this small series show streptomycin to be only moderately effective. In the event of failure of previously accepted techniques of therapy in genito-urinary infections, it may be of value.

Tower, Sarah S.: Management of paranoid trends in treatment of post-psychotic obsessional condition. Psychiatry, *10:* 137-141, May 1947.

(From the Johns Hopkins Medical School, Baltimore.)

Presents the measures taken to avoid paranoid development in intensive treatment of an obsessionally defended person with a history of frank paranoid psychosis of brief duration.

Thompson, Clara: Changing concepts of homosexuality in psychoanalysis. Psychiatry, *10:* 183-189, May 1947.

(From the William Alanson White Institute of Psychiatry, New York.)

"In view of the general confusion attached to the term "homosexuality," the author reviews the whole subject, traces the various psychoanalytical ideas about homosexuality, and describes the status of the concept today.

Fitzsimons, M. Patricia: Medical care of women in Industry. M. Press & Circ. *218:* 32-35, July 9, 1947.

Most of the work of medical supervision is the same for men and women, but women have their special needs, and it is this aspect, together with their individual and environmental care, that are considered in this paper.

Todd, Ramona L.: Is immunization of student nurses against scarlet fever justified? Journal-Lancet, *67:* 271-273, July 1947.

(From the Students' Health Service, University of Minnesota, Minneapolis.)

Because of the frequency of generalized reactions and the time lost from school as a consequence, the author doubts the value of scarlet fever immunization for student nurses.

Boyle, Margaret N., Smull, Katharine, and **Wegria, Rene:** The effect of sodium salicylate on the acid-base balance of the blood. Am. J. Med. *3:* 31-33, July 1947.

(From the Department of Medicine, Columbia University, College of Physicians and Surgeons, and the Medical Service of the Presbyterian Hospital, New York.)

Experiments on dogs were performed in order to study the effect of sodium salicylate on the acid-base balance of the blood and the mechanism of its action. The results indicated that sodium salicylate does not produce an acidosis but may produce alkalosis.

Rinzler, Samuel H., and **Travell, Janet:** The electrocardiographic diagnosis of acute myocardial infarction in the presence of the Wolff-Parkinson-White syndrome. Am. J. Med. *3:* 106-112, July 1947.

(From the Cardiac Service, Beth Israel Hospital, New York, and the Department of Pharmacology, Cornell University Medical College.)

A case is presented which illustrates the special problems involved in the electrocardiographic diagnosis of acute myocardian infarction in the presence of the syndrome of short PR interval and prolonged QRS complex.

Camp, Paul D., and **Calvin, Louise:** Severe and fatal rheumatic fever with pancarditis in Virginia. Virginia M. Monthly, *74:* 304-315, July 1947.

A presentation of cases from the Rheumatic Fever Clinic showing severe and fatal or near-fatal forms of rheumatic fever and pancarditis.

News of Medical Women

Edited by Elizabeth Kittredge, M.D.

Dr. Margaret C. Lewis, Health and Safety Adviser, Program Division of the Girl Scouts is planning a field trip to the west coast, visiting most of the larger cities of the country on her way. Further development of work with the handicapped has been made one of the priorities for the next two years and this trip will include visits to hospitals and schools for the handicapped. Dr. Lewis will finish her trip at the Girl Scout national convention in Long Beach, California, November 3rd to the 7th.

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Dr. Alma Dea Morani, F.A.C.S. announces her return from Post Graduate Studies at Washington University, St. Louis, Missouri and the opening of her offices for the practice of General Plastic Surgery in Philadelphia.

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Dr. Barbara Moulton has been appointed an Instructor in Anatomy in the School of Medicine, George Washington University.

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Dr. Leslie S. Kent of Eugene, Oregon was chosen President-elect of the Oregon State Medical Association at the annual meeting, September 6; her term will begin in September, 1948. Dr. Kent is the first woman physician ever to be chosen to head a state medical society, according to Dr. W. W. Bauer, Chicago, director of health education for the American Medical Association, who attended the convention.

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Dr. Rosetta Sherwood Hall, one of our pioneers, negotiated a large shipment of drugs, instruments and hospital supplies for the Korean Women's Medical College and Hospital and Dispensary in Seoul from the Medical and Surgical Relief Committee of which she is a member. Dr. Hall has dedicated her life to medicine and missionary work. After her graduation from the Woman's Medical College of Pennsylvania she was sent to Korea by the New York Branch of the Women's Foreign Missionary Society. During her 45 years in the Far East she established four women's hospitals and the Korean Women's Medical School. At its founding in 1928 the college had 18 students. Today there are 360 students with 41 staff members and the buildings are as modern as any in America.

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Dr. Elise S. L'Esperance, director of the Strang Cancer Prevention Clinics of the New York Infirmary and Memorial Hospital, New York, and President-Elect of the American Medical Women's Association, was a member of the American delegation to the Fourth International Cancer Congress, held at St. Louis, from September 2 to 7. The delegation was appointed by President Truman. The other members were Col. James P. Cooney, U. S. A.; Dr. L. A. Scheele, director of the National Cancer Institute, Bethesda, Maryland; Dr. F. W. N. Gardner, Yale University, former president of the American Association for Cancer Research; Commander R. B. Williams U. S. N.; Dr. E. B. Cowdry, Barnard Free Skin and Cancer Hospital, St. Louis, who presided as chairman of the Congress; Dr. J. J. Bittner, University of Minnesota, president of the American Association for Cancer Research; and Dr. C. P. Rhoads, Director of Memorial Hospital, New York. Commander R. L. Grant, U. S. N., was named as alternate. Among delegates from other countries were Dr. Georgiana Bonser of Leeds, England, Vice-President of the Medical Women's Federation of Great Britain and Dr. Petithan Cambel of Ankara, Turkey.

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The convention of the Inter-American Academy of Pediatrics was held in Washington, D. C. at the Mayflower Hotel, July 8th and 9th, 1947. **Dr. Margaret Nicholson** was Chairman. **Dr. Helen Gladys Kain** entertained the out-of-town guests at a buffet supper on the roof of Doctors' Hospital on Wednesday, July 9th, to which several of the Washington doctors were also invited. Dr. Alvarez of Mexico City, President of the Medical Women of Mexico, invited all Medical Women to her city in March for a meeting of the Women Physicians of the Western Hemisphere. Dr. Aguirre from Argentina translated the invitation into English. Dr. Nicholson introduced the visiting members of the Inter-American Academy of Pediatrics, which group included, in addition to Dr. Alvarez and Dr. Aguirre, Dr. Jiminez from the Philippine Islands and two Doctors Mayo from Havana, Cuba.

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Equipment for a 72-bed hospital that will be set up in Yong Dong, Korea, is now enroute to that country in care of a Salvation Army man-and-wife team, Drs. Clesson and **Mary Richardson,** (the former Mary McDaniel) who will be in charge of the hospital. Both Dr. and Mrs. Richardson hold the rank of Major in The Salvation Army, in which they became officers in 1929, shortly after their graduation from Columbia University Medical School in this city. Both doctors Richardson attended the London School of Tropical Medicine and Hygiene in 1931, and were sent in 1932 to direct The Salvation Army Hospital in Travancore, in southern India. In 1935, they served in The Salvation Army Hospital in Travancore, in southern India. In 1935, they served in The Salvation Army's tropical medicine hospital in Madras, India. In 1938, on sabbatical leave, they continued their graduate work in the Columbia School of Physicians and Surgeons. Dr. Mary Richardson served during the war period as the medical officer on the Philadelphia Civil Service Commission. She developed a special service for the employment of the physically handicapped in wartime production, and pioneered in the training program for the employment of maimed war veterans. For the past year, Major and Mrs. Richardson have served at the Salvation Army's William Booth Memorial Hospital in New York City, at the same time completing a course in Hospital Administration at Columbia University.

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Dr. Zaida Eriksson of Finland, a Vice-President of the Medical Women's International Association is visiting in New York City. She arrived in July, soon after the Congress in Amsterdam, to attend the Fifth International Congress of Pediatrics at which she presented a paper, "The Treatment of Asthma in Children." Dr. Eriksson is Chief Physician of the Hospital for Allergic Diseases in Children

in Helsingfors, Finland and received a Fellowship from the Finnish Foundation for Allergic Diseases to study recent advances in therapy in the United States. Following the conference, Dr. Eriksson with the other delegates to the Congress visited many hospitals and clinics throughout the country. While in New York City, she was entertained by some of the women physicians of the Medical Women's Association; visiting the Medical Department of the Metropolitan Life Insurance Company with Dr. Ada Chree Reid; the Pediatric Division of Bellevue Hospital with Dr. Margaret Tenbrinck; the Allergy Department of the New York Infirmary with Dr. Leoni Claman; she also visited with Dr. Esther Lovejoy at the office of the American Womens Hospitals.

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Another Clinic has been added to the growing list of Cancer Detection Centers which originated with the Strang Cancer Prevention Clinic founded by Dr. Elise L'Esperance at the New York Infirmary in 1932. This new center—the second on Staten Island in New York City—is located in the Staten Island Hospital and is under the direction of Dr. Frances Greenland. Dr. Greenland is a graduate of New York Medical College. She served a residency in surgery at the New York Infirmary for Women and Children and had a special fellowship at Memorial Hospital's Strang Cancer Prevention Clinic under Dr. L'Esperance. The procedure followed at the Staten Island Hospital Cancer Clinic and at the clinic in St. Vincent's Hospital, which opened six months ago, is similar to that of the Strang Clinic.

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Dr. Clara C. Joel Fleischer has been named director of maternal and child health of the city department of health of Richmond, a newly created post. She will develop a citywide program of maternal, infant and preschool health. An American citizen, Dr. Fleischer is a pharmacy graduate of Prague, Czechoslovakia, and received her doctor of medicine degree from the Medical College of Virginia, Richmond. She has been in charge of the night venereal disease clinic at the college on a part time basis since 1943, as well as industrial physician at Du Pont.

OBITUARIES

Dr. Ursula Joan Roche died suddenly on July 23.

A graduate of the New York University College of Medicine, Doctor Roche was a member of the teaching staff of the College of Physicians and Surgeons, Columbia University, and was on the visiting staff of Bellevue Hospital. She was also an attending physician at Lenox Hill and Misericordia Hospitals, New York City.

For several years, Doctor Roche conducted the consultation clinic for rheumatic children which was held at monthly intervals at the New York State Reconstruction Home at West Haverstraw and also the follow-up clinics in New York City at which children, previously hospitalized at the Home as a part of its now discontinued cardiac service, were seen. Her work was inspiring to all her associates.

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AMERICAN COMMITTEE ON MATERNAL WELFARE

The following is a report of the meeting of the Representatives of the Constituent Societies, September 8, 1947, St. Louis, Missouri. A preliminary report of the Third Congress was made by the Chairman, Dr. Fred Adair. The registration was over 1900 on the first day with about 800 in attendance at the opening meeting. As with the first two congresses, this one is expected to be self-supporting. "The MOTHER," official organ of the committee has been published at a small yearly deficit; it was voted to pay off a portion of this from any profits from exhibits at this Congress.

It was voted to hold a Fourth American Congress on Obstetrics and Gynecology in 1950 in an Eastern city and to plan for an International Congress in connection with this. The representatives voted to empower the Board of Directors to start plans for the Fourth Congress, following the close of the present meeting. Because of the increased scope of the plans for the next congress, the representatives present felt that their member organizations should lend all possible support including financial aid to the congress. Dr. Mabel Gardner, President of the American Medical Women's Association was a special guest at this meeting.

Reported by Eva F. Dodge, M.D., Representative of the American Medical Women's Association.

* * *

MEDICAL SCHOOL NEWS

Zeta Phi Fraternity has been organized for women medical students and physicians. There are two chapters at the present time; the Theta Chapter at the University of Pittsburgh School of Medicine and the Beta Chapter at Woman's Medical College of Pennsylvania.

The Beta Chapter of the fraternity has at present fifty-eight active undergraduates and one hundred and forty-eight active undergraduates and one hundred forty-three faculty and alumnae members. The activities of the fraternity are both social and professional. Orientation of the incoming freshman classes each year with formal and informal parties throughout the year are part of the social activities. "Specialty Nights" are held at frequent intervals during the school year at which specialists in various fields of medicine acquaint the members with the advantages and disadvantages of the various services. The chapter is buying its house which serves as a residence for many students, a social center for the fraternity members and which is available for the use of any member at any time.

Dr Mary DeWitt Pettit, Professor of Gynecology at Woman's Medical College, was recently named President of the National Council. **Dr. Mary Curcie,** Clinical Assistant Professor of Medicine, has been appointed Secretary of the National Organization. Plans are being made now for a national meeting to be held in Philadelphia in the early Fall.

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NEWS OF OREGON MEDICAL SCHOOL

Helen Wiltschko and Dr. Joseph Beeman, pathologist at St. Luke's Hospital, Boise, Idaho, were married October, 1946. Georgia Mason married Dr. Robert Lee (class of 1946), June 21, the day after graduation.

Dr. William Livingston has been appointed the Kenneth A. J. Mackenzie professor of surgery to succeed the late Dr. Thomas Joyce whose fatal heart attack occurred only minutes before he was to teach his usual senior surgery class. Dr. Livingston is the author of the book "Pain Mechanisms" and while in the navy, he did much to advance the field of peripheral neurosurgery.

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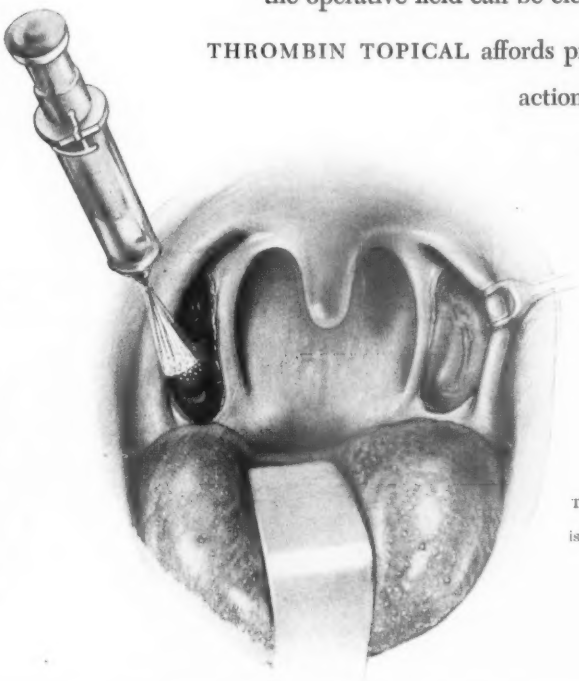

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